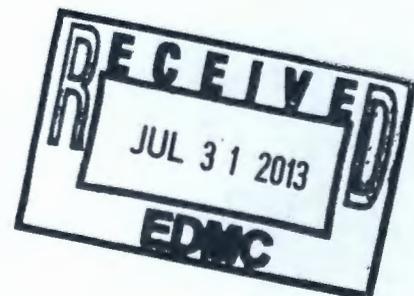


# Please distribute to the following:

## 100/300 AREA UNIT MANAGER MEETING ATTENDANCE AND DISTRIBUTION

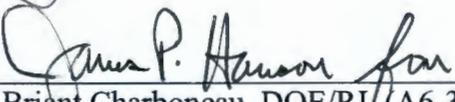
NAME	E-MAIL ADDRESS	MSIN	COMP
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Gadbois, Larry E	Gadbois.larry@epa.gov	B1-46	EPA
Hadley, Karl A	karl.hadley@wch-rcc.com	H4-21	WCH



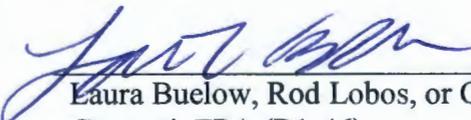
100/300 AREA UNIT MANAGERS MEETING  
APPROVAL OF MEETING MINUTES

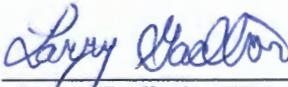
June 13, 2013

APPROVAL:  \_\_\_\_\_ Date 7/11/13  
Mark French, DOE/RL (A3-04)  
River Corridor Project Manager

APPROVAL:  \_\_\_\_\_ Date 7/11/13  
Briant Charboneau, DOE/RL (A6-33)  
Groundwater Project Manager

APPROVAL:  \_\_\_\_\_ Date 7/15/13  
Nina Menard, Ecology (H0-57)  
Environmental Restoration Project  
Manager

APPROVAL:  \_\_\_\_\_ Date 7/11/13  
Laura Buelow, Rod Lobos, or Christopher  
Guzzetti, EPA (B1-46)  
100 Area Project Manager

APPROVAL:  \_\_\_\_\_ Date July 11 2013  
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**

June 13, 2013

### ADMINISTRATIVE

- Next Unit Manager Meeting (UMM) – The next meeting will be held July 11, 2013, at the Washington Closure Hanford (WCH) Office Building, 2620 Fermi Avenue, Room C209.
- 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 May 9, 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).
- 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 June 13, 2013, 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. Ecology noted that staff members had recently toured the WCH revegetation activities in the 100 Areas and expressed positive feedback and observations. No issues were identified and no agreements or action items were documented.

### 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 5 provides the Field Remediation Schedule for IU-2/6. No issues were identified and no agreements or action items were documented.

### 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 6 provides the Field Remediation Schedule for 100-D and 100-H. Attachment 7 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 8 provides Ecology's and the Department of Health's approval of the addition of 100-H-42 and 100-H-28:2 sites to the scope of the Air Monitoring Plan for 100-H Area Remaining Sites and Burial Grounds Remedial action.

#### **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 7 provides status and information for D4/ISS activities at 100-N, 100-D and 100-B. Attachment 9 provides the 100-N Area FR Schedule. Attachment 10 provides biovent well sample results and a map depicting well locations. 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 7 provides status and information for D4/ISS activities at 100-N, 100-D and 100-B. Attachment 11 provides a schedule for Field Remediation at 100-B/C Area. No issues were identified and no agreements or action items were documented.

#### **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 12 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 13 provides status and information regarding the Long-Term Stewardship, the 100-K Shoreline Characterization Sample Design, and a Document Review Look-Ahead. No issues were identified and no agreements or action items were documented.

#### **5-YEAR RECORD OF DECISION ACTION ITEM UPDATE**

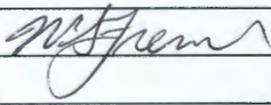
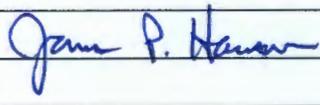
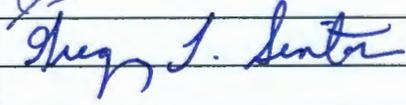
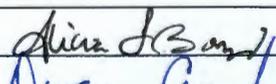
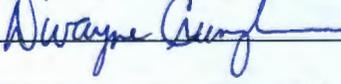
No changes were reported to the status of the CERCLA Five-Year Review action Items. No issues were identified and no agreements or action items were documented.

# Attachment A

100/300 AREA UNIT MANAGER MEETING

ATTENDANCE AND DISTRIBUTION

June 13, 2013

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# Attachment B

100/300 Area UMM  
 Action List  
 June 13, 2013

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:
X	100-199	RL	M. Thompson	100-N	At the next UMM, the 1908-N Outfall will be shown on Figure NR2-1 of the Groundwater handout.	Open: 5/9/13; Action: Closed 6/13/13

# Attachment C

100/300 Area Unit Manager Meeting  
June 13, 2013  
Washington Closure Hanford Building  
2620 Fermi Avenue, Richland, WA 99354  
Room C209; 2:00p.m.

**Administrative:**

- Approval and signing of previous meeting minutes (May 9, 2013)
- Update to Action Items List
- Next UMM (7/11/2013, Room C209)

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

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

**Special Topics/Other**

- 5-Year Record of Decision Action Item Update (Jim Hanson)

**Adjourn**

# Attachment 1

100/300 Areas Unit Managers Meeting  
June 13, 2013

**General information on Groundwater Sampling**

Sampling commenced for FY 2013 in October and progress against the plan is shown in Figure 1. In May, the cumulative count of samples completed versus the overall samples scheduled for the year was 1,969 scheduled and 1,921 were successfully completed. Of the 48 total well samples not completed, 40 are on the well maintenance/repair and/or access list. The specific well IDs successfully sampled in May are presented in the "Summary of Wells & Aquifer Tubes Sampled in the River Corridor Areas during May 2013" table at the end of this report. For June, the specific wells per groundwater interest area that are planned to be sampled are listed in the table entitled "June 2013 Planned Groundwater Sampling Locations by Interest Area", also located at the end of this report.

The sampling results are accessible from the *Environmental Dashboard* which can be accessed from the HLAN at (<http://environet.hanford.gov/eda/>).

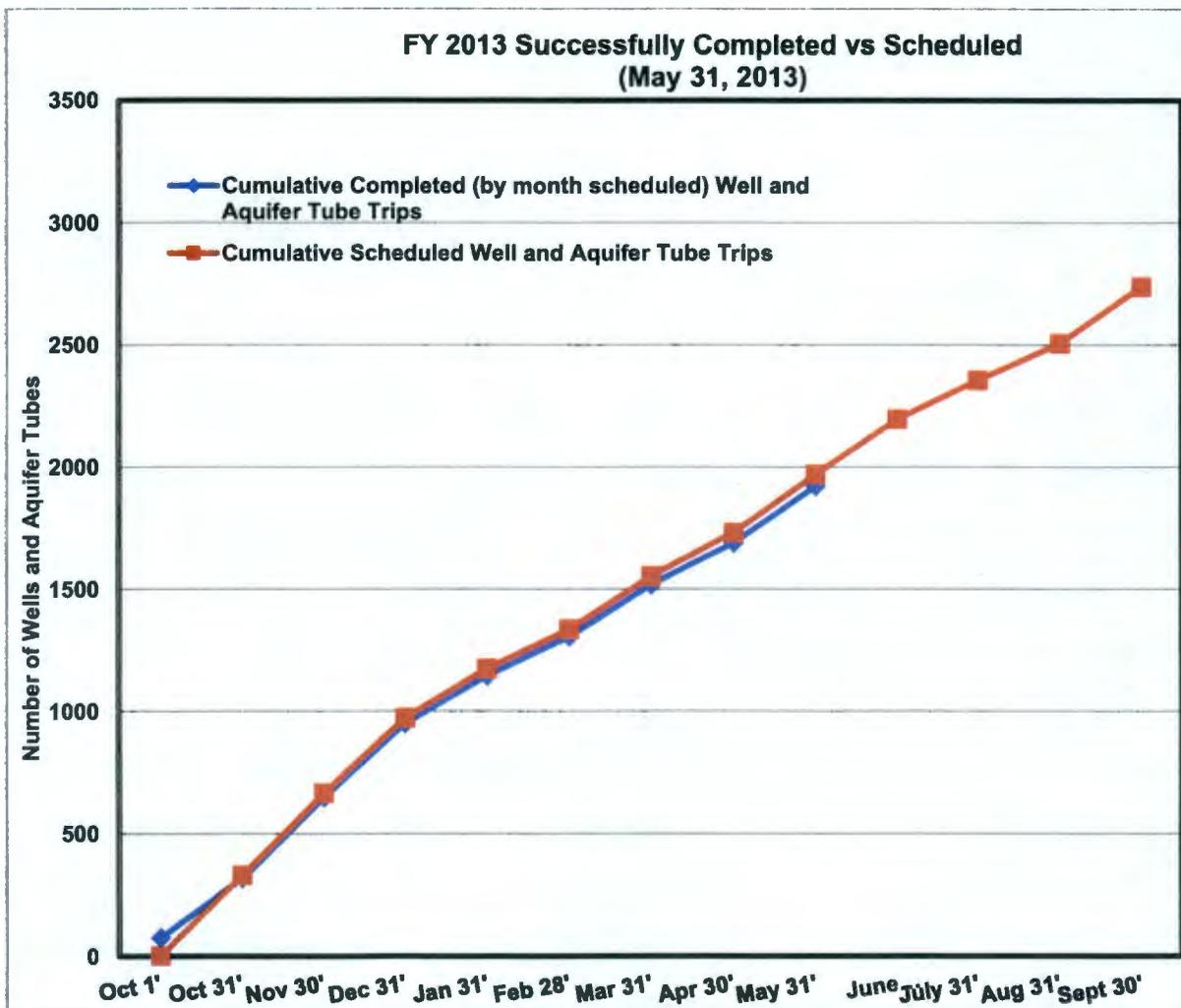


Figure 1- Sample Collection versus Plan for 2013

**General Information on Annual Reports**

The 2012 Annual Groundwater Monitoring and the 2012 Annual Pump-and-Treat reports are in progress.

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

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

(M-015-64-T01, 12/17/2011, Submit CERCLA RI/FS Report and Proposed Plan for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units for groundwater and soil.)

*Schedule Status – Completed on December 20, 2012.*

- CERCLA Process Implementation:
  - The Team is in the process of revising the Rev 0 RI/FS and PP to address EPA comments.
  - The Team has completed the steps necessary to incorporate the IRIS updates and calculations have been performed to determine the revised PRGs.
  - Cutoff date for inclusion of waste sites into the RI/FS was extended to March 30, 2013. As a result, 27 additional waste sites that have completed remediation and are undergoing evaluation and will be included in Rev 0 RI/FS. Data for these waste sites has been processed, incorporated into the database and QC'd.
  - The new waste sites and the previous waste sites were screened against the revised PRGs and Soil Screening Levels the week of May 13, 2013. The results of the comparison were distributed to the project team and incorporation of the results into the RI/FS and Proposed Plan has begun.
  - The team met with EPA on May 15, 2013. The results of the PRG comparison for the new and previous waste site were discussed. The next meeting with EPA is planned for June 20, 2013 to discuss progress and to continue to review responses to comments and document revisions.
- Monitoring and Reporting:
  - Nothing to report. All FY 2013 groundwater sampling has been completed.

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

- Project Management
  - 183-H RCRA Permit: A redline/strikeout of the current RCRA permit was discussed with Ecology on May 9. Regulators were in conceptual agreement on the path forward and proposed text changes. The results of fluoride sampling were discussed and Ecology agreed that fluoride is no longer needed as an indicator constituent. A follow-up meeting is to be scheduled after the RD/RA Work Plan is submitted and input from Ecology Legal department is available.
  - WCH Field Remediation Integration:
    - 100-D/H Well Decommissioning and Replacement
      - Scheduled replacement wells have been drilled and are now on the well access list. Sampling was conducted in mid-May.
      - Based on preliminary Cr(VI) results for well 199-H4-86, extraction from this well is being planned.
      - Wells 199-H4-7, 199-H4-9, 199-H4-48, and 199-H4-14 (former injection well) were sampled and decommissioned in mid-May for WCH remediation activity in the area.
    - Conveyance Line Relocation
      - Reroute of HDPE lines and instrument lines were completed for the five HX injection wells (199-H6-2, H4-18, -71, -72, -73) and the three HX extraction wells (199-H4-63, -69, -70).

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

- CERCLA Process Implementation:
  - RI/FS & PP
    - RL submitted a letter requesting an extension for comment response and plan for document updates to Ecology on April 10, 2013, in accordance with Section 9.2 of the Hanford Federal Facility Agreement and Consent Order. The letter specifically requested a 90-day extension (July 11, 2013) to provide Ecology with this information. This request was verbally approved at the May UMM and was followed by letter 13-NWP-049.
    - Continuing comment resolution and document updates; 48% of the comment responses are in varying levels of regulatory review and concurrence with the remaining 52% in preparation progress
  - Interim Action RD/RAWP & Monitoring Plan: Majority of chapter text is prepared with efforts continuing on cost estimate; initiated author reviews.
  - Integrated Monitoring Plan: Identifying wells, frequency, and analytes supporting each principal study questions; evaluating and optimization of wells and frequency related to each principal study question.
- Remedial Actions:
  - Operations continue at DX and HX pump-and treat system. May 2013 performance:
    - The systems treated 51.8 million gallons.
    - The system removed 31.5 kg of hexavalent chromium.
- Monitoring & Reporting
  - Aquifer tubes in southern 100-D (down gradient of ISRM) were sampled in May. Of the data received to date, all Cr(VI) concentrations were less than 10 µg/L.
  - A detection of gross beta was confirmed in Well 199-D5-93. Well 199-D5-93 was resampled and analyzed for a suite of beta emitters along with several surrounding wells. Results show that gross beta declined in 199-D5-93 to 39 pCi/L, with Sr-90 at 6.8 pCi/L. No other beta emitter was detected near its regulatory limit, however low levels of tritium were present in 199-D5-93. Tritium was also detected at low levels in surrounding wells. Another round of sampling will be scheduled next quarter to track contaminant levels in this area.
- Modifications and Expansions
  - Re-aligned existing wells: 199-D8-53 is in service and operating at a nominal 20 gpm flow rate. 199-D8-68 continues with one operational test task remaining associated with the mechanical rack. 199-D4-14/34 continues with the mechanical and electrical rack installation. 199-D8-55 design is underway. Planning initiated for 199-H4-86. The addition of these wells to the DX system will improve the hydraulic containment of the plume and protect the Columbia River.

**100-NR-2 Groundwater Operable Unit – Marty Doornbos/Virginia Rohay**

(M-015-62-T01, 9/17/2012, Submit a Feasibility Study [FS] Report and Proposed Plan [PP] for the 100-NR-1 and 100-NR-2 Operable Units including groundwater and soil.)

*Schedule Status – Tentative agreement has been reached to change the TPA milestone to June 30, 2013 for delivery of the 100-NR-2 OU Draft A RI/FS Report and Proposed Plan to Ecology.*

- CERCLA Process Implementation
  - Completed review of the Draft A proposed plan by the DOE-HQ Remedy Review Board. Overall, the Remedy Review Board is in agreement with the approach and the preferred alternative identified in the proposed plan.

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

- Completed RL's checking of the preliminary Draft A RI/FS report and proposed plan. These documents are on schedule to be provided to Ecology for their review by June 28, 2013.
- Apatite PRB Performance Monitoring
  - The Fall 2012 concentrations, and the percent reduction in strontium-90 concentrations based on comparison of the Fall 2012 concentrations to the maximum baseline concentrations, are provided in Table 1. Sampling at the apatite PRB monitoring wells and aquifer tubes was completed as scheduled in May 2013. The next sampling event is scheduled for September 2013.
- 100-NR-2 Monitoring
  - Three wells (199-N-186, 199-N-187, 199-N-188) were sampled on May 6, 2013 (June sampling completed early). According to TPA-CN-478, these three wells are scheduled to be sampled quarterly. All other wells are scheduled for sampling in September 2013.
- RCRA Monitoring
  - The next sampling event at RCRA sites 116-N-1, 116-N-3, and 120-N-1/120-N-2 is scheduled for September 2013.
- 100-N Aquifer Tubes
  - Four aquifer tubes (N116mArray-3A, -4A, -6A, and NVP2-116.0) were sampled on May 28 (June sampling completed early). According to TPA Change Notice TPA-CN-569, approved April 2013, these aquifer tubes are sampled semi-annually to monitor the apatite barrier. Based on the aquifer tube sampling and analysis plan (DOE/RL-2000-59, Rev. 1), aquifer tubes N116mArray-3A, -4A and NVP2-116.0 are also sampled quarterly (the same frequency as the rest of the "Array" aquifer tubes in 100-N).
  - Aquifer tubes C7935 and C7936 had increased tritium concentrations in the December 2012 and March 2013 samples (Figure NR2-1). These two tubes are the mid-depth and deep tubes in a cluster of three near the 1908-N Outfall (Figure NR2-2). (Figure NR2-2 shows the 1908-N Outfall, closing Action 100-199). As agreed in the May 2013 Unit Manager Meeting, these aquifer tubes will be sampled in August 2013 (Action 100-198).
  - The proposed sampling scheme for monitoring the tritium concentrations is as follows: Sample aquifer tubes C7935 and C7936 for tritium in August 2013 (per Action 100-198) and again in September/October 2013 (annual sampling per DOE/RL-2000-59, Rev. 1). Additional sampling will be determined following evaluation of this data.
  - The concentrations of strontium-90 in aquifer tube C7935 have been relatively constant with a slight downward trend (Figure NR2-3). These concentrations are consistent with the conceptual site model that the strontium-90 concentrations will exceed the drinking water standard (8 pCi/L) for an extended period of time. Given that the strontium-90 concentrations are within expected values based on previous sampling and are expected to be at this concentration for quite some time, an increased sampling frequency is not proposed at this time.

**100/300 Areas Unit Managers Meeting  
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<b>Table 1. Performance Monitoring at the Apatite Permeable Reactive Barrier, 100-NR-2 OU</b>				
<b>Upriver Apatite PRB</b>				
	199-N-96A	199-N-347	199-N-348	199-N-349
<b>Baseline (maximum)</b>	37.9	7.0	1800.0	230.0
<b>Sr-90 Concentration (pCi/L) Fall 2012</b>	4.6	10.0	88.0	50.0
<b>Percent Reduction<sup>a</sup></b>	88	-43	95	78
<b>Central (Original) Apatite PRB</b>				
	199-N-122	199-N-123	199-N-146	199-N-147
<b>Baseline (maximum)</b>	4530.0	1180.0	985.0	1842.0
<b>Sr-90 Concentration (pCi/L) Fall 2012</b>	900.0	230.0	330.0	300.0
<b>Percent Reduction<sup>a</sup></b>	81	81	66	84
<b>Downriver Apatite PRB</b>				
	199-N-350	199-N-351	199-N-352	199-N-353
<b>Baseline (maximum)</b>	240.0	350.0	580.0	83.0
<b>Sr-90 Concentration (pCi/L) Fall 2012</b>	26.0	29.0	29.0	3.4 U
<b>Percent Reduction<sup>a</sup></b>	89	92	95	100
Drinking Water Standard for Sr-90 is 8 pCi/L.				
a – Percent reduction in Sr-90 concentration from maximum baseline to Fall 2012				

**100/300 Areas Unit Managers Meeting  
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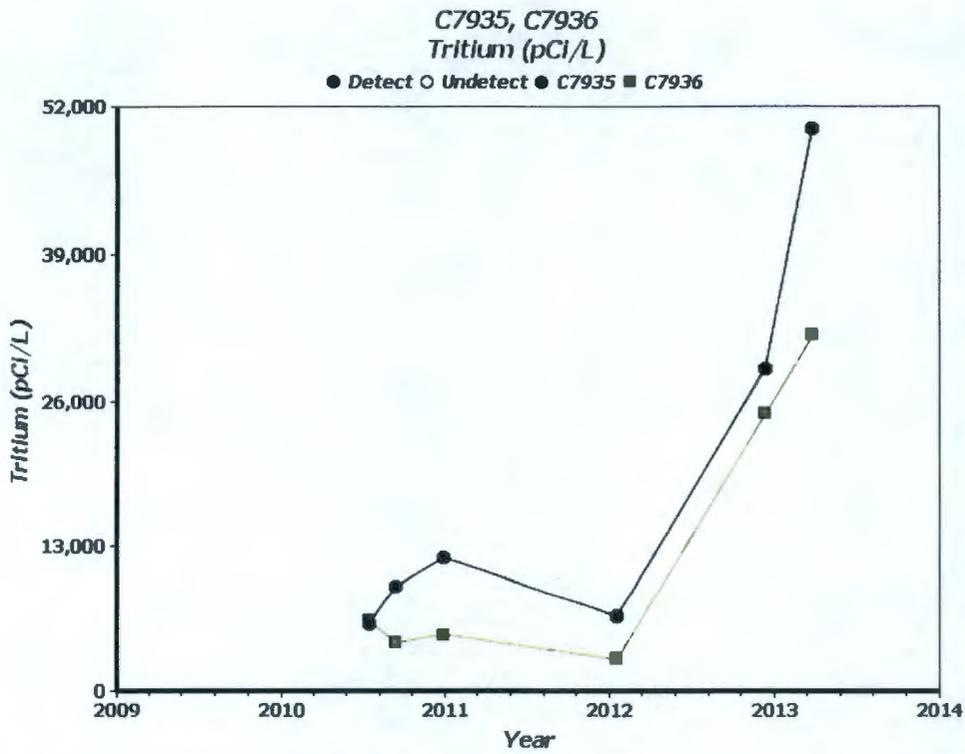


Figure NR2-1. Tritium Trend Plots for Aquifer Tubes C7935 and C7936.

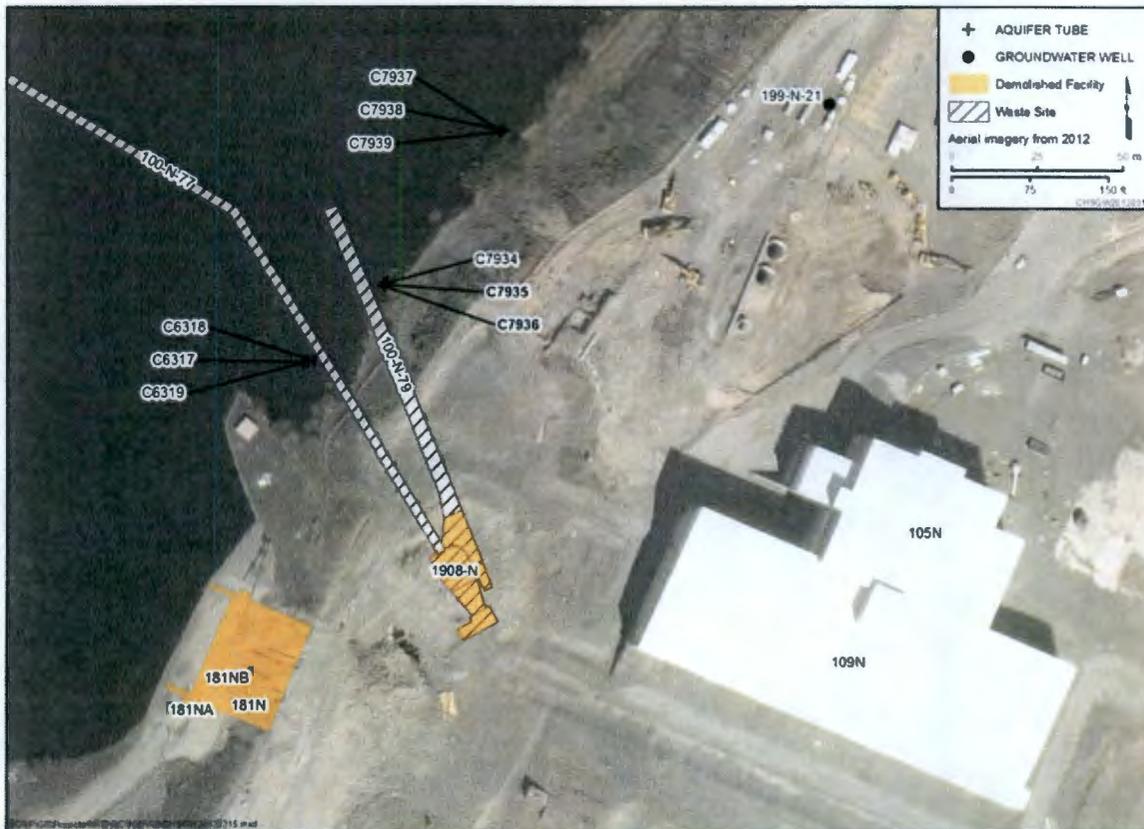


Figure NR2-2. Location of Aquifer Tubes C7935 and C7936.

**100/300 Areas Unit Managers Meeting  
June 13, 2013**



Figure NR2-3. Strontium-90 Trend Plot and Linear Trendline for Aquifer Tube C7935.

**100-KR-4 Groundwater Operable Unit – Bert Day/Bill Barrett/Chuck Miller**

- Project Management
  - Planning EPA status meeting scheduled for June 25, 2013; reviewed current project status over the previous month.
- CERCLA Process Implementation
  - RI/FS and Proposed Plan: Production of both documents is on hold until path forward is agreed to by RL and EPA. Remedial Design/Remedial Action Work Plan: All chapters, except the completion text, are drafted and undergoing completeness check prior to author review. Efforts are still underway preparing the forward looking cost estimate..
- Remedial Actions
  - Operations continue at KX, KR4, and KW pump-and-treat systems. May 2013 performance:
    - The systems treated 49.4 million gallons.
    - The system removed 4.25 kg of hexavalent chromium.
- Monitoring and Reporting
  - Monitoring Plan: Reviewed the draft problem statements, PSQs, data needs, and data uses with EPA. Continue defining the wells associated with each PSQ and looking at optimization of the wells as the proposed monitoring locations.
- Modifications and Expansions
  - Re-aligned existing wells: Initiated well re-alignments to extraction for 100-K-198/199, 199-K-196/140, and 199-K 181, consistent with the associated technical memo previously presented to EPA.

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

- (M-015-79, 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.)

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

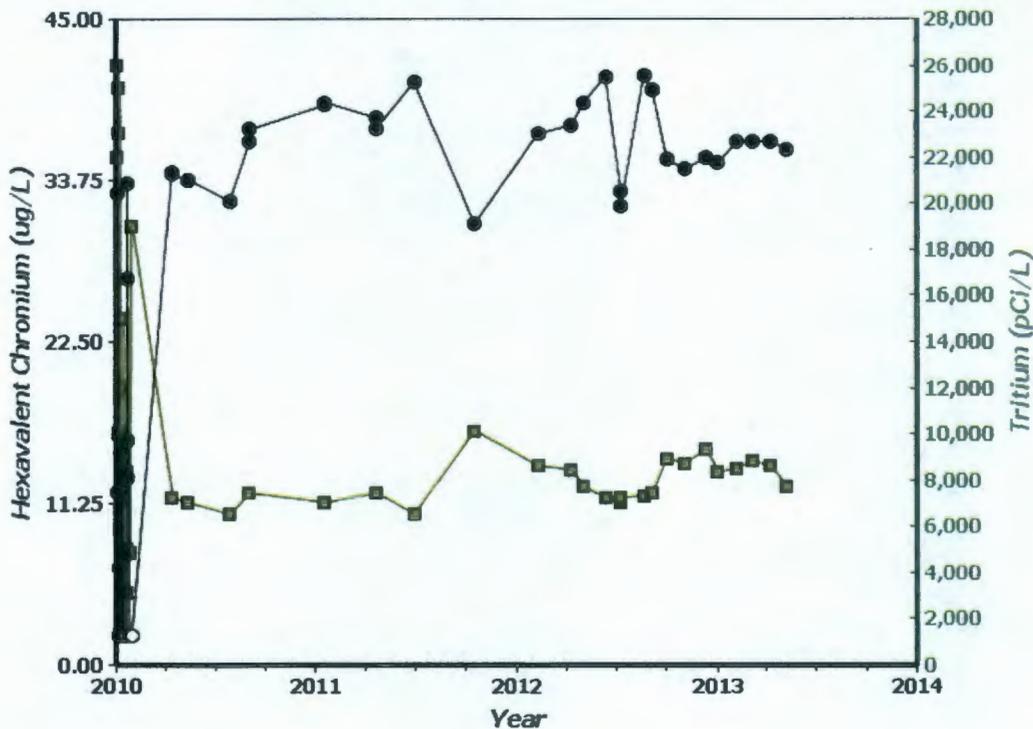
*Schedule Status – On Schedule.*

- CERCLA Process Implementation:
  - TPA Change Notice for addendums to the existing RI/FS Work Plan and SAP were signed on May 23, 2013. These addendums address additional monitoring requirements to support the assessment of the recently completed or ongoing waste site remediation and the influences to groundwater. This evaluation will support the future selection of a groundwater remedial alternative(s).
  - Activities associated with the drilling and aquifer tube installation continued the week of June 3, 2013. Select activities were put on hold pending a decision on Cultural Clearance Approvals. The team is evaluating the impacts of potential delays to the mobilization of the driller and construction of roads and pads to the overall schedule.
- Monitoring & Reporting
  - Monthly wells 199-B4-14 and 199-B5-6 were sampled in May.
  - The groundwater sampling and analysis plan, as revised by TPA-CN-522, states that “monthly frequency [of 199-B4-14 and 199-B5-6] may be reduced to quarterly if contaminant concentrations stabilize.” Because the concentrations of Cr(VI) and tritium in well 199-B5-6 (screened in lower part of Ringold unit E) are stable, EPA and DOE agree that it may be sampled quarterly. A TPA change notice is not required since the existing plan includes a contingency for decreasing sample frequency. We will continue to monitor shallow well 199-B5-6 monthly to determine if and when it might be appropriate to decrease its sampling frequency.

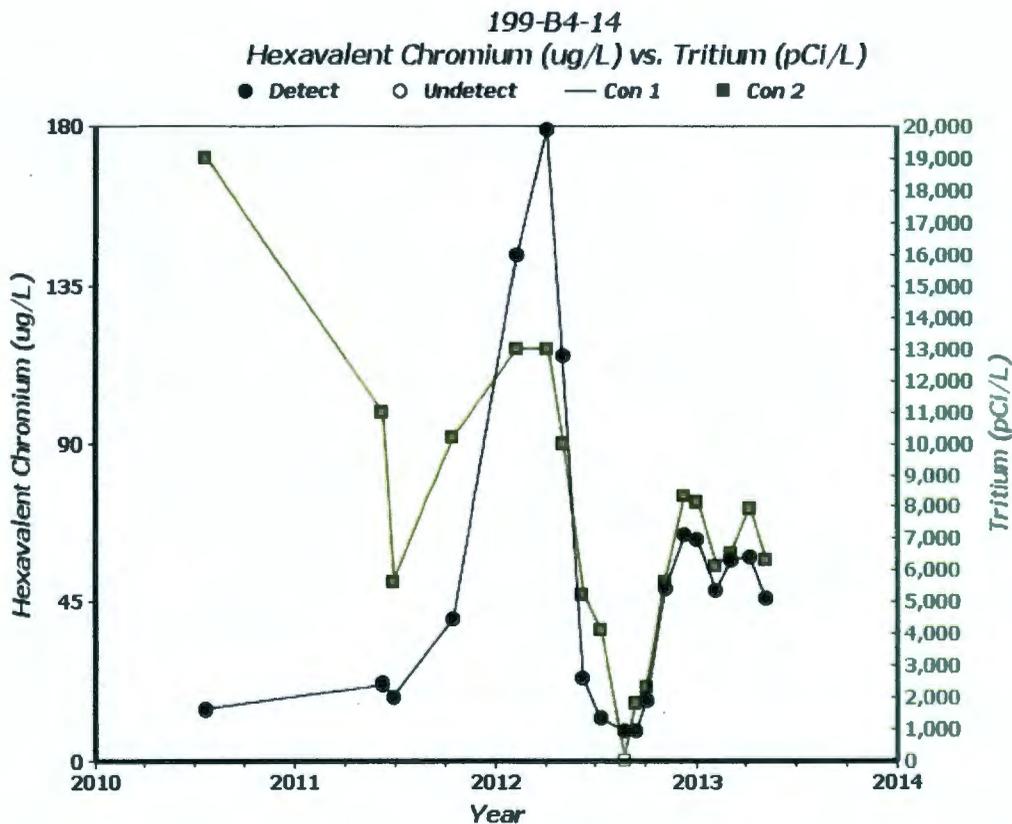
*BA-14*

**199-B5-6  
Hexavalent Chromium (ug/L) vs. Tritium (pCi/L)**

● Detect    ○ Undetect    — Con 1    ■ Con 2



**100/300 Areas Unit Managers Meeting  
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**300-FF-5 Groundwater Operable Unit – Marty Doornbos/Virginia Rohay**

- RI/FS report (DOE/RL-2010-99) Draft A delivered to EPA and Ecology on December 27, 2011.
  - The RI/FS report has been finalized as Rev 0. The Rev 0 RI/FS Addendum was provided to RL on May 29, 2013 for input. This addendum includes an additional remedial alternative for the uranium contaminated groundwater and updates the PRGs based upon the latest EPA toxicity information.
- Proposed Plan (DOE/RL-2011-47) Draft A delivered to EPA and Ecology on December 27, 2011.
  - The draft Rev. 0 Proposed Plan was provided to RL and EPA for final input November 8, 2012. The draft Rev. 0. H Proposed Plan was provided to RL on April 30, 2013 for review. Additional revisions are underway.
  - The public comment period has been tentatively identified for July 2013.
- 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 June 3, 2013, 52 out of the 59 wells that are scheduled to be sampled in June have been sampled. The remaining wells are on schedule to be sampled this month.

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

- 618-11 Burial Ground — Tritium, nitrate, and gross beta results for the sample collected on October 18, 2012 at well 699-13-3A, next to the eastern fence line of the Burial Ground, are consistent with previous concentrations (Figure 300FF5-1). Well 699-13-3A was sampled on January 23, 2013; results for tritium and gross beta are consistent with previous concentrations; the sample was not analyzed for technetium-99. Well 699-13-3A was sampled on May 20, 2013 for tritium and technetium-99.
  
- 618-10 Burial Ground/316-4 Crib — Groundwater data from June 2012, January 2013, and February 2013 at well 699-S6-E4L near the 618-10 Burial Ground showed increased concentrations of uranium and of magnesium and calcium (common soil fixatives) (Figure 300FF5-2). The increases in uranium concentrations may be associated with the excavation activities that began in March 2011 at some of the trenches in the burial ground. Well 699-S6-E4K also was sampled on February 26, 2013. Results for uranium, magnesium, and calcium were consistent with previous results. Both wells were sampled on May 20, 2013.
  
- RCRA Monitoring – 300 Area Process Trenches (316-5)
  - The next sampling event is scheduled for June 2013.
  
- 300 Area Aquifer Tubes
  - The next sampling event is scheduled for December 2013.
  -

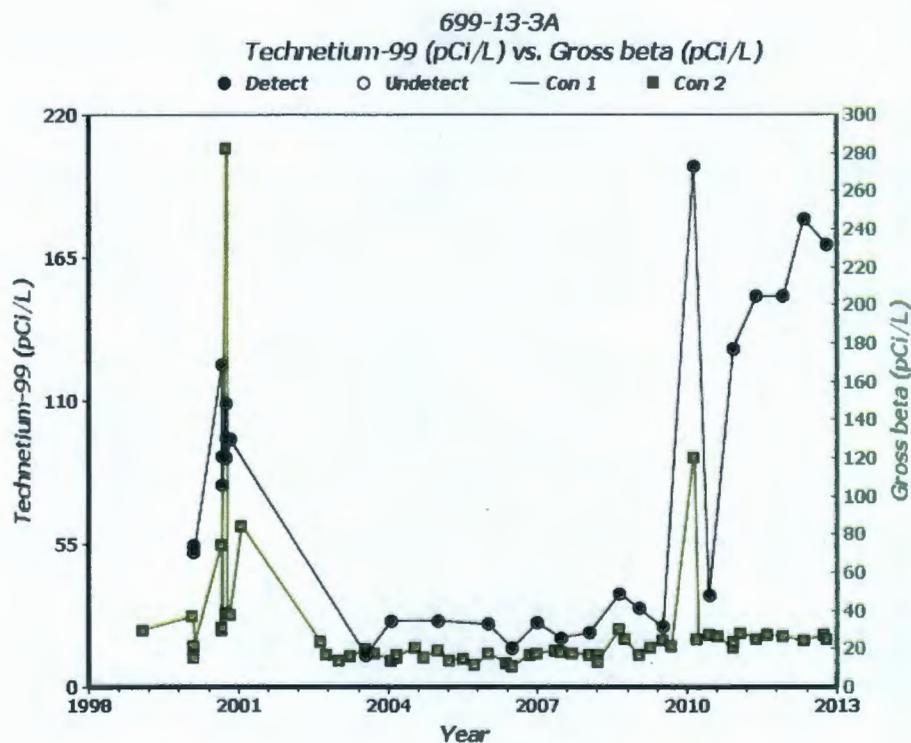


Figure 300FF5-1. Technetium-99 and Gross Beta Trends (through October 18, 2012) at Well 699-13-3A at the 618-11 Burial Ground.

**100/300 Areas Unit Managers Meeting  
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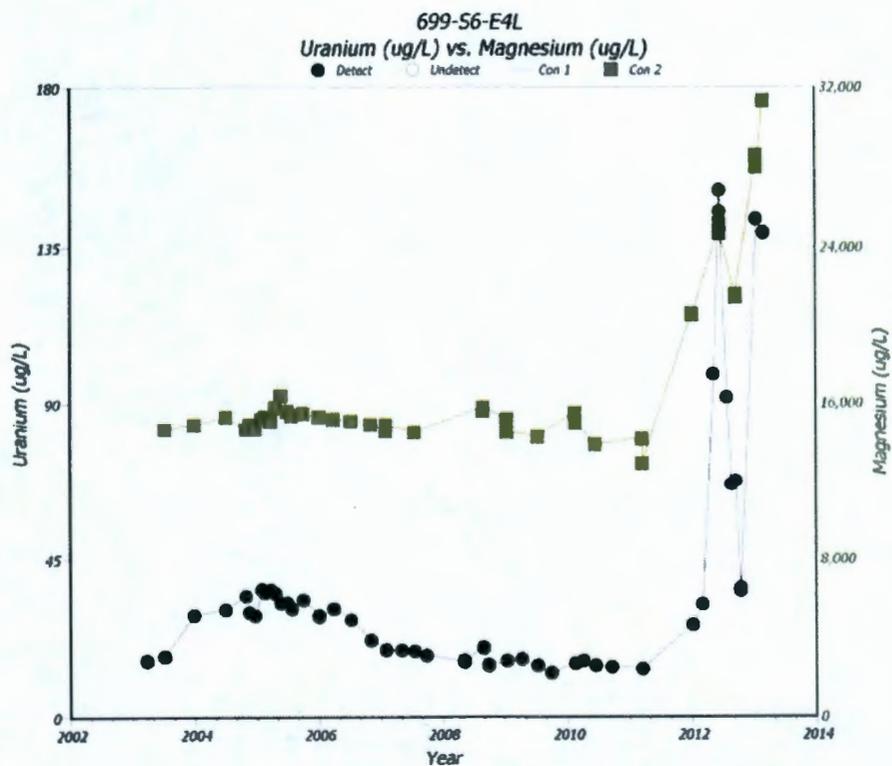


Figure 300FF5-2. Uranium and Magnesium Trends (through February 26, 2013) at Well 699-S6-E4L at the 618-10 Burial Ground.

**100/300 Areas Unit Managers Meeting  
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<b>Summary of Wells &amp; Aquifer Tubes Sampled in the River Corridor Areas During May 2013</b>						
<b>Week</b>	<b>100-BC</b>	<b>100-K</b>	<b>100-N</b>	<b>100-D/H</b>	<b>100-F</b>	<b>300 Area</b>
<b>01-03 May 13</b>		199-K-127 199-K-144 199-K-120A 199-K-145		C6270 199-D5-104 199-H4-4 C6268 DD-41-3 C6266 C6269 C6271 DD-44-3 DD-44-4 DD-43-2 DD-43-3 DD-42-2 DD-42-3 DD-42-4 DD-41-1 DD-41-2 C6267 Redox-3-3.3 Redox-3-4.6 DD-39-2 Unsuccessful Redox-1-6.0 Redox-1-3.3 Redox-2-6.0 Redox-4-6.0 Redox-4-3.0 DD-39-1		
<b>04-10 May 13</b>	199-B5-6 199-B4-14		N116mArray-3A N116mArray-2A 199-N-71 199-N-165 199-N-187 199-N-186 199-N-188 199-K-150 199-N-348 199-N-122 199-N-147 199-N-146 199-N-123 199-N-347 N116mArray-1A	199-H4-48 199-H4-45 199-H4-5 199-H4-13 199-H3-2A 199-H4-14 199-H4-84 199-H4-9 199-H4-7 199-H4-10		

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

<b>Summary of Wells &amp; Aquifer Tubes Sampled in the River Corridor Areas During May 2013</b>						
<b>Week</b>	<b>100-BC</b>	<b>100-K</b>	<b>100-N</b>	<b>100-D/H</b>	<b>100-F</b>	<b>300 Area</b>
			199-N-349 199-N-350 199-N-351 N116mArray-4A 199-N-353 199-N-96A 199-N-352 NVP2-116.0 N116mArray-6A APT5 C7881 N116mArray-8A APT1			
<b>11-17</b> <b>May 13</b>		199-K-119A 199-K-19 199-K-133 199-K-134 199-K-135		199-D4-83 199-H4-80 199-H4-81 199-H4-82 199-H1-5 199-D8-69 199-D5-104 199-D4-84 199-D4-38 199-D8-73 199-D8-88 199-D5-39 199-D4-85 199-D5-15 199-D5-13 199-D5-16 199-D5-43 199-D3-2 199-D4-23 199-D4-62 199-D4-22 199-D4-14 199-D5-38 199-D8-5 199-D8-70 199-D5-126 199-D5-148 199-D5-134 199-D5-145 199-D5-146		

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

<b>Summary of Wells &amp; Aquifer Tubes Sampled in the River Corridor Areas During May 2013</b>						
<b>Week</b>	<b>100-BC</b>	<b>100-K</b>	<b>100-N</b>	<b>100-D/H</b>	<b>100-F</b>	<b>300 Area</b>
18-24 May 13		199-K-136 199-K-126		199-D5-147 199-D5-123 199-D5-125 199-H4-49 199-H4-85 199-H4-86		699-S6-E4L 699-13-3A 699-S20-E10 399-1-7 699-13-0A 699-13-1A 699-S6-E4K 399-1-61 699-12-2C Unsuccessful 399-1-57 399-1-58 399-1-11 399-1-56 399-1-8 399-1-55 399-1-62 399-1-15 399-1-23 399-8-3 399-6-3 399-8-5A 399-4-7 399-4-11 399-4-1 399-4-15 399-4-14 399-8-1 399-1-2 399-1-54 399-1-6 399-1-64 399-3-38 399-3-1 399-3-18 399-3-10 399-3-33 399-1-1

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

<b>Summary of Wells &amp; Aquifer Tubes Sampled in the River Corridor Areas During May 2013</b>						
<b>Week</b>	<b>100-BC</b>	<b>100-K</b>	<b>100-N</b>	<b>100-D/H</b>	<b>100-F</b>	<b>300 Area</b>
<b>25-31 May 13</b>		199-K-137	N116mArray-4A NVP2-116.0 N116mArray-3A N116mArray-6A	199-H1-2 199-H1-27 199-H1-1 199-H1-43 199-H1-25 199-H4-77 199-H1-39 199-H4-69 199-H1-34 199-H1-6 199-H1-36 199-H4-70 199-H4-64 199-H4-63 199-H3-2C 199-D8-68 199-H1-3 199-D5-109 199-D5-107 199-D4-26 199-D5-110		399-2-1 399-3-19 399-1-59 399-3-20 399-2-2 399-3-12 399-1-21A 399-2-5 399-3-2 399-1-63 399-2-32 399-3-22 399-5-4B 399-4-10 399-1-21B 699-12-2C 399-4-12

**100/300 Areas Unit Managers Meeting  
June 13, 2013**

**June 2013 Planned Groundwater Sampling Locations by Interest Area**

<b>100-BC-5</b>	<b>100-FR-3</b>	<b>100-HR-3-D</b>	<b>100-HR-3-H</b>	<b>100-KR-4</b>	<b>100-NR-2</b>	<b>300-FF-5</b>
199-B4-14		199-D3-2	199-H1-1		199-K-150	399-1-1
199-B5-6		199-D4-14	199-H1-2		199-N-165	399-1-10A
		199-D4-22	199-H1-25		199-N-186	399-1-10B
		199-D4-23	199-H1-27		199-N-187	399-1-11
		199-D4-25	199-H1-3		199-N-188	399-1-12
		199-D4-38	199-H1-34		199-N-71	399-1-15
		199-D4-62	199-H1-36		C6132	399-1-16A
		199-D4-83	199-H1-39		C7881	399-1-16B
		199-D4-84	199-H1-4		N116mArray-0A	399-1-17A
		199-D4-85	199-H1-42		N116mArray-10A	399-1-17B
		199-D5-104	199-H1-43		N116mArray-11A	399-1-18A
		199-D5-123	199-H1-45		N116mArray-12A	399-1-18B
		199-D5-125	199-H1-6		N116mArray-13A	399-1-2
		199-D5-126	199-H3-2A		N116mArray-15A	399-1-21A
		199-D5-15	199-H3-2C		N116mArray-1A	399-1-21B
		199-D5-16	199-H4-10		N116mArray-2A	399-1-23
		199-D5-38	199-H4-12A		N116mArray-3A	399-1-54
		199-D5-39	199-H4-13		N116mArray-4A	399-1-55
		199-D5-43	199-H4-4		N116mArray-6A	399-1-56
		199-D5-97	199-H4-45		N116mArray-8.5A	399-1-57
		199-D8-5	199-H4-5		N116mArray-8A	399-1-58
		199-D8-68	199-H4-63		N116mArray-9A	399-1-59
		199-D8-69	199-H4-64		NVP1-1	399-1-6
		199-D8-70	199-H4-69		NVP1-2	399-1-61
		199-D8-72	199-H4-70		NVP1-3	399-1-62
		199-D8-73	199-H4-75		NVP1-4	399-1-63
		199-D8-88	199-H4-76		NVP1-5	399-1-64

**100/300 Areas Unit Managers Meeting  
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<b>100-BC-5</b>	<b>100-FR-3</b>	<b>100-HR-3-D</b>	<b>100-HR-3-H</b>	<b>100-KR-4</b>	<b>100-NR-2</b>	<b>300-FF-5</b>
		199-H1-5	199-H4-77		NVP2-115.1	399-1-7
		199-H4-80	199-H4-84		NVP2-115.4	399-1-8
		199-H4-81			NVP2-115.7	399-2-1
		199-H4-82			NVP2-116.0	399-2-2
					NVP2-116.3	399-2-32
						399-2-5
						399-3-1
						399-3-10
						399-3-12
						399-3-18
						399-3-19
						399-3-2
						399-3-20
						399-3-21
						399-3-22
						399-3-33
						399-3-38
						399-3-6
						399-4-1
						399-4-10
						399-4-11
						399-4-12
						399-4-14
						399-4-15
						399-4-7
						399-5-4B
						399-6-3
						399-6-5
						399-8-1

**100/300 Areas Unit Managers Meeting  
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<b>100-BC-5</b>	<b>100-FR-3</b>	<b>100-HR-3-D</b>	<b>100-HR-3-H</b>	<b>100-KR-4</b>	<b>100-NR-2</b>	<b>300-FF-5</b>
						399-8-3
						399-8-5A
						699-12-2C
						699-13-0A
						699-13-1A
						699-S20-E10
						699-S6-E4B
						699-S6-E4E
						699-S6-E4K
						699-S6-E4L

# Attachment 2

June 13, 2013 Unit Manager's Meeting  
Field Remediation Status

**100-B/C**

- Closure documentation for 100-C-7:1 expected for completion before end of fiscal year
- 100-C-7:1 project site placed in safe configuration
- Backfill at C-7:1 deferred until late summer (Mid July/August forecasted)

**100-D**

- Continued remediation and layback removal at 100-D-100
- Continued remediation and layback removal at 100-D-30/104.
- Continued remediation of 100-D-83:5

**100-H**

- Continued excavation/remediation field activities at 100-H-46
- Completed 100-H electrical reroute field activities
- Completed groundwater pump and treat reroute activities

**100-K**

- Additional remediation scheduled at 100-K-95 (1 sample failure)
- Review sites for future backfill material needs
- Confirmatory sampling to establish path forward on 100-K-93/100-K-111 planned for early July

**100-N**

- Continued remediation of 100-N-84:2, 100-N-93 and 100-N-95
- Completed draining of diesel and bunker oil lines in 100-N-82:4
- Completed excavation and load-out activities at 100-N-86
- Continued system operations for in-situ bioremediation system for UPR-100-N-17, deep vadose zone remediation
- Continued preparation of closure documents and conducting verification sampling

**616-10 Trench Remediation**

- Both drum penetration facilities were returned to service
- Resumption of limited waste load-out activities
- Preparation for transition of site to a Hazcat 3 facility

**100-IU-2/6**

- Completed excavation and load-out activities at 600-368 and 600-369, favorable sample results received on 600-368, sample results pending on 600-369
- Continued remediation of 600-370 and 600-301
- Additional remediation planned at 600-293 and 600-294
- Completed final miscellaneous restoration item removal from IU-2

②

# Attachment 3



UMM K SCHEDULE

Activity ID	Activity Name	TPA	% Cmpl	RD	Start	Finish	Calendar																																		
							J							July 2013							A							S							O						
							2	0	1	1	2	2	0	0	1	1	2	2	0	1	1	2	0	0	1	2	3	0	1	2	3	0	1	2	2	0	1	1	2		

**Final Project Closeout**

RK087D13	Prepare Calculations(UCL, DQA, HQ, act.) - 100-K-87	Y	0%	12	03-Jun-13	20-Jun-13
RK087D14	Prepare Internal Closure Document - 100-K-87	Y	0%	8	24-Jun-13	08-Jul-13
RK087D15	Format/Tech Edit 100-K--100-K-87	Y	0%	3	09-Jul-13	11-Jul-13
RK087D16	Internal Review - 100-K-87	Y	0%	4	15-Jul-13	18-Jul-13
RK087D17	Incorporate Internal Review Comments - 100-K-87	Y	0%	4	22-Jul-13	25-Jul-13
RK087D18	Final Format/Tech Edit/Internal Sigs - 100-K-87	Y	0%	6	29-Jul-13	06-Aug-13
RK087D19	RL/Reg Review Draft A Closure Document for - 100-K-87	Y	0%	26	07-Aug-13	23-Sep-13
RK087D20	Resolve Draft A Comments - 100-K-87	Y	0%	16	24-Sep-13	21-Oct-13
RK087D21	RL/Reg Sign Rev. 0 Closure Document for - 100-K-87	Y	0%	4	22-Oct-13	28-Oct-13
RK087D22	Prepare Rev. 0 Letter/Signatures - 100-K-87	Y	0%	4	29-Oct-13	04-Nov-13
RK087D23	Issue Rev. 0 Closure Document - 100-K-87	Y	0%	2	05-Nov-13	06-Nov-13

**100-K-91 - Battery**

**Revegetation**

RK091E2	Revegetation --100-K-91 (0.1 Acres)	Y	0%	1	13-Nov-13*	13-Nov-13
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**Final Project Closeout**

RK091D13	Prepare Calculations(UCL, DQA, HQ, act.) - 100-K-91	Y	0%	12	03-Jun-13*	20-Jun-13
RK091D14	Prepare Internal Closure Document - 100-K-91	Y	0%	8	24-Jun-13	08-Jul-13
RK091D15	Format/Tech Edit 100-K--100-K-91	Y	0%	3	09-Jul-13	11-Jul-13
RK091D16	Internal Review - 100-K-91	Y	0%	4	15-Jul-13	18-Jul-13
RK091D17	Incorporate Internal Review Comments - 100-K-91	Y	0%	4	22-Jul-13	25-Jul-13
RK091D18	Final Format/Tech Edit/Internal Sigs - 100-K-91	Y	0%	6	29-Jul-13	06-Aug-13
RK091D19	RL/Reg Review Draft A Closure Document for - 100-K-91	Y	0%	26	07-Aug-13	23-Sep-13
RK091D20	Resolve Draft A Comments - 100-K-91	Y	0%	16	24-Sep-13	21-Oct-13
RK091D21	RL/Reg Sign Rev. 0 Closure Document for - 100-K-91	Y	0%	4	22-Oct-13	28-Oct-13
RK091D22	Prepare Rev. 0 Letter/Signatures - 100-K-91	Y	0%	4	29-Oct-13	04-Nov-13
RK091D23	Issue Rev. 0 Closure Document - 100-K-91	Y	0%	2	05-Nov-13	06-Nov-13

**100-K-92 - Reddish Stained Gravels**

**Backfill**

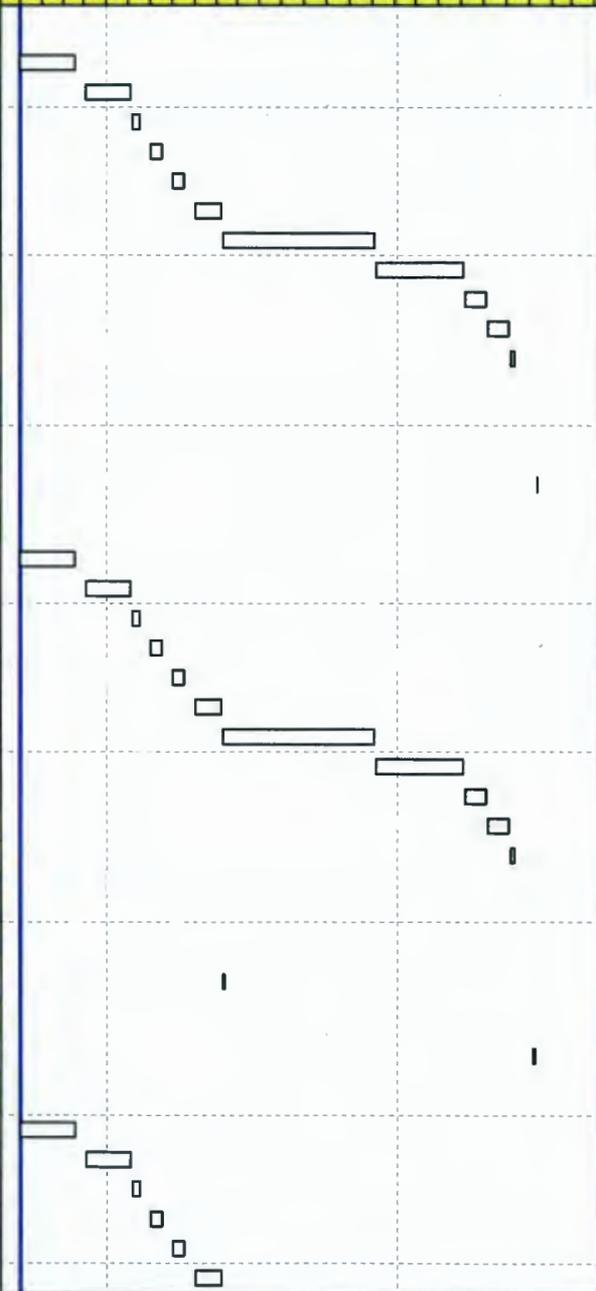
RK092C	Backfill - 100-K-92 (7 BCMs)	Y	0%	1	07-Aug-13*	07-Aug-13
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**Revegetation**

RK092E2	Revegetation --100-K-92 (1.57 Acres)	Y	0%	1	12-Nov-13*	12-Nov-13
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**Final Project Closeout**

RK092D13	Prepare Calculations(UCL, DQA, HQ, act.) - 100-K-92	Y	0%	12	03-Jun-13*	20-Jun-13
RK092D14	Prepare Internal Closure Document - 100-K-92	Y	0%	8	24-Jun-13	08-Jul-13
RK092D15	Format/Tech Edit 100-K-92	Y	0%	3	09-Jul-13	11-Jul-13
RK092D16	Internal Review - 100-K-92	Y	0%	4	15-Jul-13	18-Jul-13
RK092D17	Incorporate Internal Review Comments - 100-K-92	Y	0%	4	22-Jul-13	25-Jul-13
RK092D18	Final Format/Tech Edit/Internal Sigs - 100-K-92	Y	0%	6	29-Jul-13	06-Aug-13



Current Bar Labels % Complete



UMM K SCHEDULE

Activity ID	Activity Name	TPA	% Cmpl	RD	Start	Finish	Gantt Chart																														
							J		July 2013		A		S		O		N																				
							2	0	1	1	2	0	0	1	2	2	0	1	1	2	0	0	1	2	3	0	1	2	2	0	1	1	2				
RK095D20	Resolve Draft A Comments - 100-K-95	Y	0%	16	21-Nov-13	23-Dec-13																															
<b>118-K-1 Burial Ground</b>																																					
<b>Final Project Closeout</b>																																					
RK18K12030	Prepare Closure Document 118-K-1	Y	5%	78	04-Dec-12 A	17-Oct-13																															
RK18K12062	RL/Reg Review Draft A Closure Document for - 118-K-1	Y	0%	20	12-Aug-13*	16-Sep-13																															
RK18K12052	RL/Reg Sign Rev. 0 Closure Document for - 118-K-1	Y	0%	9	15-Oct-13	29-Oct-13																															

(3)

# Attachment 4

**100K Area Unit Managers Meeting  
June 13, 2013**

**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 FY13.

TPA Milestone M-016-174, *Complete Final Design of Sludge Retrieval and Transfer System* (9/30/13) - On Schedule

- EPA provided comments on the draft ECRTS 90% design Remedial Design Report which includes the 105-KW Annex Air Monitoring plan and QAPjP. Comments are expected to be resolved and the revision issued to DOE and EPA for approval the last week in June.
- Work continues on the ECRTS final design, expected to be complete in July 2013.
- The hazard analyses, accident analysis, and control decision report have been approved and released. DOE comments from the in-process review of the ECRTS Preliminary Documented Safety Analysis (PDSA) have been incorporated. The PDSA is expected to be issued to DOE for approval in mid-July.

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

- Construction of the KW Basin Modified Annex was suspended on March 5, 2013. The site has been placed in a safe and stable configuration pending resumption of work in FY 2014. Planning for restart of construction in FY 2014 is in progress.
- Annex constructability review by CHPRC and construction subcontractors has begun. The review is focused on the design for the balance of construction and the revised construction schedule.
- The Integrated Process Optimization Demonstration at MASF is expected to begin in July.

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

- TPA Change Notice 570 deleting a second retrieval of sludge from the settler tanks in the Remedial Design/Remedial Action Work Plan for the deactivation of the KW Basin was approved by RL and EPA. An assessment was performed and the determination made a second retrieval is not needed.

## **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 FY13.

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 May.

9

# Attachment 5

UMM IU SCHEDULE

Activity ID	Activity Name	TPA	% Cmpl	RD	Start	Finish	Month/Day Grid																											
							June 2013			July 2013			A			S			O			N			D									
							0	1	2	0	1	2	2	0	1	2	0	0	1	2	3	0	1	2	2	0	1	2	0	1	2	0		
<b>600-326</b>																																		
<b>Excavation</b>																																		
IU222640	Excavation 600-326* Cultural Hold	Y	0%	3	01-Aug-13*	06-Aug-13	□																											
<b>Loadout</b>																																		
IU222650	Loadout 600-326 * Cultural Hold	Y	0%	3	07-Aug-13*	12-Aug-13	□																											
<b>Closeout Sampling &amp; Docs</b>																																		
IU222710	Closure Sampling 600-326	Y	0%	26	27-Aug-13	10-Oct-13	▬																											
<b>Final Project Closeout</b>																																		
IU222720	Prepare Closure Document 600-326	Y	0%	83	14-Oct-13	17-Mar-14	▬																											
<b>600-386</b>																																		
<b>Revegetation</b>																																		
IU225770	Revegetation 600-386	N	0%	1	11-Nov-13*	11-Nov-13																												
<b>600-301</b>																																		
<b>Excavation</b>																																		
IU223140	Excavation 600-301	Y	35%	14	20-May-13 A	02-Jul-13	▬																											
<b>Loadout</b>																																		
IU223040	Loadout 600-301	Y	35%	14	20-May-13 A	02-Jul-13	▬																											
<b>Closeout Sampling &amp; Docs</b>																																		
IU223100	Prepare Work Instruction 600-301	Y	0%	75	01-Aug-13*	16-Dec-13	▬																											
IU223110	RL/Reg Review of Draft A Work Instruction 600-301	Y	0%	26	23-Sep-13	05-Nov-13	▬																											
IU223050	RL/Reg Signature Rev.0 WI 600-301	Y	0%	4	06-Nov-13*	12-Nov-13	□																											
<b>600-293</b>																																		
<b>Excavation</b>																																		
IU222920	Excavation 600-293	Y	98%	15	25-Mar-13 A	03-Jul-13	▬																											
<b>Loadout</b>																																		
IU222820	Loadout 600-293	Y	98%	15	25-Mar-13 A	03-Jul-13	▬																											
<b>Closeout Sampling &amp; Docs</b>																																		
IU222880	Prepare Work Instruction 600-293	Y	5%	47	15-May-13 A	29-Aug-13	▬																											
IU222890	RL/Reg Review of Draft A Work Instruction 600-293	Y	0%	22	08-Jul-13*	13-Aug-13	▬																											
IU222830	RL/Reg Signature Rev.0 WI 600-293	Y	0%	4	14-Aug-13*	20-Aug-13	□																											
IU222840	Closure Sampling 600-293	Y	0%	26	03-Sep-13	16-Oct-13	▬																											
<b>Final Project Closeout</b>																																		
IU222850	Prepare Closure Document 600-293	Y	0%	93	17-Oct-13	08-Apr-14	▬																											

▬ Current Bar Labels    ▬ % Complete    ◆    ◆

UMM IU SCHEDULE

Activity ID	Activity Name	TPA	% Cmpl	RD	Start	Finish	Schedule Grid																											
							June 2013				July 2013				A			S			O			N			D							
							0	1	1	2	0	0	1	2	2	2	0	1	1	2	0	0	1	2	3	0	1	2	2	0	1	1	2	0
<b>600-294</b>																																		
<b>Excavation</b>																																		
IU223030	Excavation 600-294	Y	98%	16	28-Mar-13 A	08-Jul-13	[Gantt bar from 28-Mar-13 to 08-Jul-13]																											
<b>Loadout</b>																																		
IU222930	Loadout 600-294	Y	98%	16	28-Mar-13 A	08-Jul-13	[Gantt bar from 28-Mar-13 to 08-Jul-13]																											
<b>Closeout Sampling &amp; Docs</b>																																		
IU222990	Prepare Work Instruction 600-294	Y	5%	47	15-May-13 A	29-Aug-13	[Gantt bar from 15-May-13 to 29-Aug-13]																											
IU223000	RL/Reg Review of Draft A Work Instruction 600-294	Y	0%	22	08-Jul-13*	13-Aug-13	[Gantt bar from 08-Jul-13 to 13-Aug-13]																											
IU222940	RL/Reg Signature Rev.0 WI 600-294	Y	0%	4	14-Aug-13*	20-Aug-13	[Gantt bar from 14-Aug-13 to 20-Aug-13]																											
IU222950	Closure Sampling 600-294	Y	0%	26	03-Sep-13	16-Oct-13	[Gantt bar from 03-Sep-13 to 16-Oct-13]																											
<b>Final Project Closeout</b>																																		
IU222960	Prepare Closure Document 600-294	Y	0%	93	17-Oct-13	08-Apr-14	[Gantt bar from 17-Oct-13 to 08-Apr-14]																											
<b>Confirmatory Sampling Campaign</b>																																		
<b>Loadout</b>																																		
IU226240	Confirmatory Sampling Campaign	N	0%	12	09-Jul-13	29-Jul-13	[Gantt bar from 09-Jul-13 to 29-Jul-13]																											
<b>600-374</b>																																		
<b>Excavation</b>																																		
IU224460	Excavation 600-374	Y	0%	1	30-Jul-13	30-Jul-13	[Gantt bar from 30-Jul-13 to 30-Jul-13]																											
<b>Loadout</b>																																		
IU224360	Loadout 600-374	Y	0%	2	31-Jul-13	01-Aug-13	[Gantt bar from 31-Jul-13 to 01-Aug-13]																											
<b>Closeout Sampling &amp; Docs</b>																																		
IU224380	Closure Sampling 600-374	Y	0%	26	15-Aug-13	02-Oct-13	[Gantt bar from 15-Aug-13 to 02-Oct-13]																											
<b>Final Project Closeout</b>																																		
IU224390	Prepare Closure Document 600-374	Y	0%	93	02-Oct-13	25-Mar-14	[Gantt bar from 02-Oct-13 to 25-Mar-14]																											
<b>600-375</b>																																		
<b>Excavation</b>																																		
IU224570	Excavation 600-375	Y	0%	2	01-Aug-13	06-Aug-13	[Gantt bar from 01-Aug-13 to 06-Aug-13]																											
<b>Loadout</b>																																		
IU224470	Loadout 600-375	Y	0%	3	06-Aug-13	08-Aug-13	[Gantt bar from 06-Aug-13 to 08-Aug-13]																											
<b>Closeout Sampling &amp; Docs</b>																																		
IU224490	Closure Sampling 600-375	Y	0%	26	26-Aug-13	09-Oct-13	[Gantt bar from 26-Aug-13 to 09-Oct-13]																											
<b>Final Project Closeout</b>																																		
IU224500	Prepare Closure Document 600-375	Y	0%	93	10-Oct-13	01-Apr-14	[Gantt bar from 10-Oct-13 to 01-Apr-14]																											

Current Bar Labels % Complete





		UMM IU SCHEDULE																				
Activity ID	Activity Name	TPA	% Cmpl	RD	Start	Finish	June 2013			July 2013			A		S			O		N		D
							0	1	2	0	1	2	0	1	2	0	1	2	3	0	1	2
IU223320	Prepare Work Instruction 600-279	N	0%	75	22-Oct-13	11-Mar-14																
<b>600-298</b>																						
<b>Backfill</b>																						
IU2230	Backfill 600-298	Y	0%	1	03-Jul-13*	03-Jul-13																
<b>Final Project Closeout</b>																						
IU2290	Prepare Closure Document 600-298	Y	52%	73	25-Mar-13 A	16-Oct-13																
IU2300	RL/Reg Review of Draft A Closure Document 600-298	Y	0%	26	11-Jul-13*	26-Aug-13																
IU2310	RL/Reg Signature Rev.0 Closure Document 600-298	Y	0%	4	25-Sep-13	01-Oct-13																
<b>600-299</b>																						
<b>Backfill</b>																						
IU22120	Backfill 600-299	Y	0%	1	08-Jul-13*	08-Jul-13																
<b>Final Project Closeout</b>																						
IU22180	Prepare Closure Document 600-299	Y	52%	73	25-Mar-13 A	16-Oct-13																
IU22190	RL/Reg Review of Draft A Closure Document 600-299	Y	0%	26	11-Jul-13*	26-Aug-13																
IU22200	RL/Reg Signature Rev.0 Closure Document 600-299	Y	0%	4	25-Sep-13	01-Oct-13																
<b>600-300</b>																						
<b>Backfill</b>																						
IU22230	Backfill 600-300	Y	0%	1	09-Jul-13*	09-Jul-13																
<b>Final Project Closeout</b>																						
IU22290	Prepare Closure Document 600-300	Y	52%	73	25-Mar-13 A	16-Oct-13																
IU22300	RL/Reg Review of Draft A Closure Document 600-300	Y	0%	26	11-Jul-13*	26-Aug-13																
IU22310	RL/Reg Signature Rev.0 Closure Document 600-300	Y	0%	4	25-Sep-13	01-Oct-13																
<b>600-303</b>																						
<b>Backfill</b>																						
IU222550	Backfill 600-303	Y	0%	1	02-Oct-13*	02-Oct-13																
<b>Revegetation</b>																						
IU222570	Revegetation 600-303	Y	0%	1	18-Nov-13*	18-Nov-13																
<b>Final Project Closeout</b>																						
IU222610	Prepare Closure Document 600-303	Y	38%	73	06-May-13 A	16-Oct-13																
IU222620	RL/Reg Review of Draft A Closure Document 600-303	Y	0%	26	11-Jul-13	26-Aug-13																
IU222630	RL/Reg Signature Rev.0 Closure Document 600-303	Y	0%	4	25-Sep-13	01-Oct-13																
<b>600-313</b>																						
<b>Revegetation</b>																						
IU221300	Revegetation 600-313	N	0%	1	19-Nov-13*	19-Nov-13																

Current Bar Labels 
  % Complete 
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		UMM IU SCHEDULE																			
Activity ID	Activity Name	TPA	% Cmpl	RD	Start	Finish	June 2013			July 2013			A		S		O		N		D
							0	1	2	0	1	2	0	1	2	0	1	2	3	0	1
<b>Final Project Closeout</b>																					
IU221940	Prepare Closure Document 600-320	Y	38%	72	15-May-13 A	15-Oct-13															
IU221950	RL/Reg Review of Draft A Closure Document 600-320	Y	0%	26	23-Jul-13*	05-Sep-13															
IU221960	RL/Reg Signature Rev.0 Closure Document 600-320	Y	0%	4	30-Sep-13	03-Oct-13															
<b>600-321</b>																					
<b>Backfill</b>																					
IU221990	Backfill 600-321	Y	0%	1	07-Aug-13*	07-Aug-13															
<b>Revegetation</b>																					
IU222010	Revegetation 600-321	Y	0%	1	03-Dec-13	03-Dec-13															
<b>Final Project Closeout</b>																					
IU222050	Prepare Closure Document 600-321	Y	38%	73	06-May-13 A	16-Oct-13															
IU222060	RL/Reg Review of Draft A Closure Document 600-321	Y	0%	26	11-Jul-13	26-Aug-13															
IU222070	RL/Reg Signature Rev.0 Closure Document 600-321	Y	0%	4	25-Sep-13	01-Oct-13															
<b>600-328</b>																					
<b>Revegetation</b>																					
IU222340	Revegetation 600-328	Y	0%	1	04-Dec-13	04-Dec-13															
<b>Final Project Closeout</b>																					
IU222380	Prepare Closure Document 600-328	Y	38%	72	07-May-13 A	15-Oct-13															
IU222390	RL/Reg Review of Draft A Closure Document 600-328	Y	0%	26	15-Jul-13	27-Aug-13															
IU222400	RL/Reg Signature Rev.0 Closure Document 600-328	Y	0%	4	26-Sep-13	02-Oct-13															
<b>600-368</b>																					
<b>Excavation</b>																					
IU223800	Excavation 600-368	Y	98%	1	01-Apr-13 A	10-Jun-13															
<b>Loadout</b>																					
IU223700	Loadout 600-368	Y	98%	1	01-Apr-13 A	10-Jun-13															
<b>Closeout Sampling &amp; Docs</b>																					
IU223720	Closure Sampling 600-368	Y	20%	16	16-May-13 A	08-Jul-13															
<b>Final Project Closeout</b>																					
IU223730	Prepare Closure Document 600-368	Y	0%	93	09-Jul-13	23-Dec-13															
IU223740	RL/Reg Review of Draft A Closure Document 600-368	Y	0%	26	12-Sep-13	28-Oct-13															
IU223750	RL/Reg Signature Rev.0 Closure Document 600-368	Y	0%	4	26-Nov-13	04-Dec-13															
<b>600-369</b>																					
<b>Excavation</b>																					
IU223910	Excavation 600-369	Y	98%	1	03-Apr-13 A	10-Jun-13															

Current Bar Labels % Complete ◆ ◆

		UMM IU SCHEDULE																			
Activity ID	Activity Name	TPA	% Cmpl	RD	Start	Finish	June 2013			July 2013			A		S		O		N		D
							0	1	2	0	1	2	0	1	2	0	1	2	3	0	1
<b>Loadout</b>																					
IU223810	Loadout 600-369	Y	98%	1	03-Apr-13	A	10-Jun-13														
<b>Closeout Sampling &amp; Docs</b>																					
IU223830	Closure Sampling 600-369	Y	30%	10	16-May-13	A	25-Jun-13														
<b>Final Project Closeout</b>																					
IU223840	Prepare Closure Document 600-369	Y	0%	93	26-Jun-13		11-Dec-13														
IU223850	RL/Reg Review of Draft A Closure Document 600-369	Y	0%	26	03-Sep-13		16-Oct-13														
IU223860	RL/Reg Signature Rev.0 Closure Document 600-369	Y	0%	4	14-Nov-13		20-Nov-13														
<b>600-370</b>																					
<b>Excavation</b>																					
IU224020	Excavation 600-370	Y	30%	33	08-May-13	A	06-Aug-13														
<b>Loadout</b>																					
IU223920	Loadout 600-370	Y	30%	33	08-May-13	A	06-Aug-13														
<b>Closeout Sampling &amp; Docs</b>																					
IU223940	Closure Sampling 600-370	Y	0%	26	21-Aug-13		07-Oct-13														
<b>Final Project Closeout</b>																					
IU223950	Prepare Closure Document 600-370	Y	0%	93	08-Oct-13		27-Mar-14														
<b>600-378</b>																					
<b>Excavation</b>																					
IU224900	Excavation 600-378	Y	0%	1	07-Aug-13		07-Aug-13														
<b>Loadout</b>																					
IU224800	Loadout 600-378	Y	0%	2	08-Aug-13		12-Aug-13														
<b>Closeout Sampling &amp; Docs</b>																					
IU224860	Prepare Work Instruction 600-378	Y	0%	75	10-Sep-13		28-Jan-14														
IU224870	RL/Reg Review of Draft A Work Instruction 600-378	Y	0%	26	29-Oct-13		17-Dec-13														
<b>600-379</b>																					
<b>Excavation</b>																					
IU225010	Excavation 600-379	Y	0%	1	12-Aug-13		13-Aug-13														
<b>Loadout</b>																					
IU224910	Loadout 600-379	Y	0%	2	13-Aug-13		14-Aug-13														
<b>Closeout Sampling &amp; Docs</b>																					
IU224930	Closure Sampling 600-379	Y	0%	26	29-Aug-13		15-Oct-13														
<b>Final Project Closeout</b>																					
IU224940	Prepare Closure Document 600-379	Y	0%	93	16-Oct-13		07-Apr-14														

Current Bar Labels 
  % Complete 
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# Attachment 6

Activity ID	Activity Name	% Cmpl	RD	Start	Finish	June 2013		July 2013		August 2013		S			O			N			D		
						1	2	0	0	1	2	2	0	1	2	0	0	1	2	3	0	1	2
<b>100 D</b>																							
<b>Special Projects</b>																							
100D100A410	Decommission well 199-D-5-93 (100-D-100 Tier 3 Interference)	0%	5	03-Sep-13*	10-Sep-13																		
100D100A411	Drill Replacement Well for 199-D-5-93 (100-D-100 Tier 3 Interf...	0%	10	04-Nov-13*	19-Nov-13																		
<b>Excavation</b>																							
100D100A311A	Excavate 100-D-100: Tier 3 Phase 3 (215,000 BCM)	73%	24	13-Feb-13 A	29-Jul-13																		
RD10D301AUW2	Excavate 100-D-30 Plume (227,900 BCM)	54%	53	14-Feb-13 A	18-Sep-13																		
100D104A311	Excavate 100-D-104 Tier 3 Phase 2 (57,935 BCM)	48%	16	19-Feb-13 A	07-Oct-13																		
100D100A393	Excavate Contaminated Stockpile Area (D-100 Tier 1&2 Chrome)	82%	12	16-Apr-13 A	08-Jul-13																		
100D100A311P	Excavate 100-D-100: Tier 3 Plume Chase	0%	47	30-Jul-13	21-Oct-13																		
100D100A311P1	Additional Hammering / Demo: Tier 3 Plume Chase	0%	16	30-Jul-13	26-Aug-13																		
CBB0537A	Excavate 100-D-72 (3,506 BCM)	0%	6	30-Sep-13	09-Oct-13																		
CBB0541A	Excavate 100-D-83:3 (182 BCM)	0%	1	09-Oct-13	10-Oct-13																		
CBB0543A	Excavate 100-D-84:2 (634 BCM)	0%	1	10-Oct-13	10-Oct-13																		
CBB0548A	Excavate 100-D-97 (128 BCM)	0%	1	10-Oct-13	14-Oct-13																		
CBB0545A	Excavate 100-D-86:1 (5,200 BCM) **RAD**	0%	6	14-Oct-13	22-Oct-13																		
CBB0516F1B	Demo 100-D-31:11&12 Phase 3 (370 LM Pipeline demo)	0%	12	22-Oct-13	11-Nov-13																		
CBB0516FCDD	Excavate 100-D-31:11&12 Phase 1 (32,800 BCM BCL)	0%	11	22-Oct-13	07-Nov-13																		
CBB0545AA10	Demo 100-D-86:1 (5,200 BCM) **RAD**	0%	4	22-Oct-13	29-Oct-13																		
CBB0544A	Excavate 100-D-85:2 (7,000 BCM) **RAD**	0%	8	22-Oct-13	05-Nov-13																		
CBB0534A	Excavate 100-D-81 (2,417 BCM)	0%	2	04-Nov-13	06-Nov-13																		
CBB0546A	Excavate 100-D-86:3 (1,817 BCM) **RAD**	0%	3	05-Nov-13	11-Nov-13																		
CBB0516FAUW	Excavate 100-D-31:11&12 Phase 2 (7,700 BCM ACL)	0%	5	11-Nov-13	18-Nov-13																		
CBB0547A	Excavate 100-D-96:2 - No Design	0%	1	18-Nov-13	19-Nov-13																		
CBB0550A	Excavate 100-D-99 - No Design	0%	1	19-Nov-13	20-Nov-13																		
CBB0553A	Excavate 100-D-105 - No Design	0%	9	20-Nov-13	10-Dec-13																		
CBC0517A	Excavate 100-D-103 - No Design	0%	0	20-Nov-13	20-Nov-13																		
CBC0518A	Excavate 100-D-106 - No Design	0%	8	10-Dec-13	26-Dec-13																		
<b>Loadout</b>																							
100D100A407	Loadout 100-D-100 Tier 3 - Phase 1 - (MHVs - 12,600 Tons)	75%	16	28-Mar-13 A	15-Jul-13																		
100D100A394	Loadout 100-D-100 Tier 1&2 Stockpile Area (35,000 Tons)	82%	5	16-Apr-13 A	10-Jul-13																		
RD05507110	Loadout 100-D-50:7 (Blue Dot Containers - 2,500 Tons)	0%	2	01-Jul-13*	02-Jul-13																		
100D100A313	Loadout 100-D-100 Tier 3 (Blue Dot Cans - 85,500 Tons)	0%	53	03-Jul-13	08-Oct-13																		
100D100A372	Loadout 100-D-100 Tier 3 (LDR - 20,000 Tons)	0%	28	26-Aug-13*	14-Oct-13																		
100D100A312	Loadout 100-D-100 Tier 3 - Phase 2 - (MHVs - 140,912 Tons)	0%	47	17-Sep-13	10-Dec-13																		
100D100A409	Loadout 100-D-100 Plume (Blue Dot - 62,000 Tons)	0%	12	08-Oct-13	29-Oct-13																		
100D104A345	Loadout 100-D-104 Tier 3 (LDR - 0 Tons)	0%	0	15-Oct-13	15-Oct-13																		
RD100D30A43	Loadout 100-D-30 Plume Loadout (LDR - 0 Tons)	0%	0	15-Oct-13	15-Oct-13																		
100D100A406	Loadout 100-D-100 Tier 1&2 Stockpile Area (LDR - 0 Tons)	0%	0	15-Oct-13	15-Oct-13																		

█ SPIF Bar   
█ Remaining Work   
█ Critical Remaining Work  
█ Actual Work   
█ Actual Critical Work   
█ Remaining Level of Effort

Data Date: 17-Jun-13

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Activity ID	Activity Name	% Cmpl	RD	Start	Finish	June 2013			July 2013			August 2013			S			O			N			D			
						1	2	3	0	1	2	0	1	2	0	1	2	3	0	1	2	0	1	2	0	1	0
100D100A375	Loadout Power Poles & Debris from Power Line Relocation	0%	0	15-Oct-13	15-Oct-13																						
CBB0537B	Loadout 100-D-72 (Blue Dot Cans - 3,232 Tons)	0%	2	29-Oct-13	30-Oct-13																						
CBB0541B	Loadout 100-D-83:3 (Blue Dot Containers - 174 Tons)	0%	0	31-Oct-13	31-Oct-13																						
CBB0543B	Loadout 100-D-84:2 (Blue Dot Cans - 280 Tons)	0%	0	31-Oct-13	31-Oct-13																						
CBB0548B	Loadout 100-D-97 (Blue Dot Containers - 45 Tons)	0%	0	31-Oct-13	31-Oct-13																						
CBB0542B	Loadout 100-D-83:5 (Blue Dot Cans - 2,967 Tons)	0%	2	31-Oct-13	04-Nov-13																						
CBB0534B	Loadout 100-D-81 (Blue Dot Cans - 5,318 Tons)	0%	3	04-Nov-13	07-Nov-13																						
100D104A313	Loadout 100-D-104 Tier 3 (Blue Dot Cans - 8,709 Tons)	0%	4	07-Nov-13	14-Nov-13																						
CBB0544B	Loadout 100-D-85:2 (RAD)	0%	0	18-Nov-13	18-Nov-13																						
CBB0546B	Loadout 100-D-86:3 (Orange Cans - 506 Tons)	0%	0	18-Nov-13	18-Nov-13																						
CBB0545B	Loadout 100-D-86:1 (Orange Cans - 1,384 Tons)	0%	1	18-Nov-13	19-Nov-13																						
RD100D30A42	Loadout 100-D-30 Plume Loadout (MHVs - 54,489 Tons)	0%	20	10-Dec-13	20-Jan-14																						
<b>Revegetation</b>																											
DMSR13	2013 100-D Reveg Campaign	0%	0	18-Nov-13*																							
CBB0501E	Reveg - Rem Wst Site - 100-D-2, 2 acres	0%	1	18-Nov-13*	18-Nov-13*																						
CBC0602E	Revegetation - Rem BG - 100-D-43	0%	1	18-Nov-13*	18-Nov-13																						
CBC0501E	Reveg - 100-D-58	0%	2	18-Nov-13*	19-Nov-13																						
CBC0507E	Revegetation - Rem Wst Site - 100-D-28:1	0%	1	18-Nov-13*	18-Nov-13																						
RD05509140	Reveg- Rem Wst Site - 100-D-50:9 -2.41 acres	0%	1	19-Nov-13*	19-Nov-13																						
CBC0603E	Revegetation - Rem BG - 100-D-47	0%	1	19-Nov-13	19-Nov-13																						
RD132D500	Reveg- Rem Wst Site - 132-D-1	0%	1	20-Nov-13*	20-Nov-13																						
CBC0604E	Revegetation - Rem BG - 118-D-1	0%	5	20-Nov-13	02-Dec-13																						
RD1506500	Reveg- Rem Wst Site - 100-D-50:6	0%	1	21-Nov-13*	21-Nov-13																						
CBB0503E	Revegetation - 100-D-42	0%	2	25-Nov-13*	26-Nov-13																						
RD67D51500	Reveg- Rem Wst Site - 1607-D5	0%	1	02-Dec-13*	02-Dec-13*																						
CBB0404E	Reveg - Rem Liq Wst Site - 120-D-2	0%	1	02-Dec-13*	02-Dec-13																						
CBB0605E	Revegetation - Rem BG - 100-D-45	0%	1	02-Dec-13*	02-Dec-13																						
CBC0607E	Revegetation - Rem BG - 118-D-4	0%	1	02-Dec-13*	02-Dec-13																						
CBC0608E	Reveg - Rem BG - 118-D-5	0%	1	02-Dec-13	02-Dec-13*																						
CBC0609E	Revegetation - Rem BG - 118-DR-1	0%	1	02-Dec-13*	02-Dec-13																						
CBB0606E	Reveg - Rem BG - 126-D-2, 3.16 acres	0%	2	03-Dec-13	04-Dec-13																						
CBC0610E	Reveg - Rem BG - 126-DR-1 - Does not need Reveg'd	0%	4	03-Dec-13	09-Dec-13																						
CBB0601E	Revegetation - Rem BG - 100-D-32	0%	1	10-Dec-13	10-Dec-13																						
<b>Final Project Closeout</b>																											
RD15060340	Prepare Closure Document for 100-D-50:6	99%	1	06-Feb-13 A	17-Jun-13																						
<b>100 H</b>																											
<b>Special Projects</b>																											
HB512A40	Power Line Relocation - Closeout Docs (MSA Scope)	95%	4	01-May-13 A	20-Jun-13																						
HB512A9	Power Air Monitor #4 (Required for rad work)	0%	4	03-Jul-13	10-Jul-13																						

 SPIF Bar    
 Remaining Work    
 Critical Remaining Work  
 Actual Work    
 Actual Critical Work    
 Remaining Level of Effort

Data Date: 17-Jun-13  
Page 2 of 3

CPP 100-D - Current - After FR525 Rev. 2...  
TASK filter: 100-DH POW Content.

Activity ID	Activity Name	% Cmpl	RD	Start	Finish	2013																										
						June	July	August	S	O	N	D																				
HB512A8	Construct Access Road (100-H REA 138)	0%	2	01-Oct-13	02-Oct-13	1	1	2	0	0	1	2	2	0	1	1	2	0	0	1	2	3	0	1	2	2	0	1	1	2	0	0
HB512A20	Collect Samples from 100-H-28:3 near Export Water Line	0%	14	10-Oct-13	23-Oct-13																											
HB512A2	Reroute Export Water Line (100-H REA 138)	0%	47	24-Oct-13	22-Jan-14																											
<b>Excavation</b>																																
HB518A2	Excavate 100-H-46 - Stage 2: 45 ft to Groundwater (61,000 BCM)	92%	5	28-Mar-13 A	24-Jun-13																											
HB518A45	Excavate 100-H-46 - Plume Chase (15,540 BCM)	0%	9	25-Jun-13	10-Jul-13																											
HB511A04	Excavate 100-H-28:2 Phase 2 - (55,355 BCMs)	0%	22	11-Jul-13	19-Aug-13																											
HB514A184	Excavate 184-H Slab (2,250 BCM)	0%	8	01-Aug-13*	14-Aug-13																											
HB511A023	Demo 100-H-28:2-3 Concrete Demolition and Size Reduction	0%	55	20-Aug-13	25-Nov-13																											
HB516A	Excavate 100-H-43 - Power line Interference (819 BCM)	0%	2	20-Aug-13	21-Aug-13																											
HB517A	Excavate 100-H-44 (24 BCM)	0%	2	21-Aug-13	22-Aug-13																											
HB519A	Excavate 100-H-48 (1,300 BCM)	0%	1	26-Aug-13	27-Aug-13																											
HB521A	Excavate 100-H-52 (225 BCM)	0%	2	27-Aug-13	28-Aug-13																											
HB513A02	Excavate 100-H-28:4 Phase 2 (3,644 BCMs)	0%	4	28-Aug-13	05-Sep-13																											
HB514A	Excavate 100-H-28:5 Section A - Power Line (650 BCM)	0%	1	05-Sep-13	09-Sep-13																											
HB514A1	Excavate 100-H-28:5 Section B - All else (5,866 BCM)	0%	13	09-Sep-13	30-Sep-13																											
HC501A10	Excavate 100-H-34 (0 BCM)	0%	1	01-Oct-13*	01-Oct-13																											
HB512A	Excavate 100-H-28:3 Section A - Export Water Line (5,000 BCM)	0%	2	08-Oct-13	09-Oct-13																											
HB512A5	Excavate 100-H-28:3 Section B - Power Line (12,500 BCM)	0%	5	10-Oct-13	17-Oct-13																											
HB512A6	Excavate 100-H-28:3 Section C - All Else (41,394 BCM)	0%	17	21-Oct-13	18-Nov-13																											
HB515A	Excavate 100-H-42 (33,197 BCM) **RAD**	0%	8	19-Nov-13	05-Dec-13																											
HB515A10	Demo 100-H-42 **RAD**	0%	8	26-Nov-13*	11-Dec-13																											
HB520A	Excavate 100-H-51:2 (873 BCM)	0%	1	16-Dec-13	16-Dec-13																											
<b>Loadout</b>																																
HB518B1	Loadout 100-H-46 (MHVs - 98,371 Tons)	0%	29	16-Jul-13	04-Sep-13																											
HB518B4	Loadout 100-H-46 Plume Chase (MHVs - 16,100 Tons)	0%	6	05-Sep-13	16-Sep-13																											
HB518B2	Loadout 100-H-46 (LDR - 0 Tons)	0%	0	15-Oct-13	15-Oct-13																											
HB511B04E	Loadout 100-H-28:2 (Orange Containers - 9,857 Tons)	0%	0	19-Nov-13	19-Nov-13																											
HB515B	Loadout 100-H-42 (Orange Cans - 10,573 Tons)	0%	5	05-Dec-13	16-Dec-13																											
HB520B	Loadout 100-H-51:2 (Direct Load - 336 Tons)	0%	1	16-Dec-13	16-Dec-13																											
<b>Revegetation</b>																																
HB404E20	Revegetation - 116-H-9 (less than 1.0 acre)	0%	1	10-Dec-13*	10-Dec-13																											
HB501E	Revegetation - Rem Wst Site - 100-H-14	0%	5	10-Dec-13*	17-Dec-13																											
HC505E2	Revegetation - 1607-H1 (0.83 acres)	0%	1	11-Dec-13*	11-Dec-13																											
<b>In-Process Sampling</b>																																
HB520AS	In-Process Sampling 100-H-51:2	0%	2	16-Dec-13	18-Dec-13																											

SPIF Bar   
 Remaining Work   
 Critical Remaining Work  
 Actual Work   
 Actual Critical Work   
 Remaining Level of Effort

Data Date: 17-Jun-13

CPP 100-D - Current - After FR525 Rev. 2...



# Attachment 7

## **100 Area D4/ISS Status**

June 11, 2013

### **100-N**

**100-N Miscellaneous Items** – Removal and disposition of miscellaneous materials and equipment from around the site continue in preparation for D4 demobilization from 100-N.

### **100-D**

**183-D Water Treatment Plant** – Demolition and loadout of below grade of headhouse, and above/below grade demo of flocculation/sedimentation basins, and South clearwell and pumphouse continues.

**151-D Electrical Switchyard** – Planning activities for demolition of the switchyard are underway.

### **100-B**

**105-B Reactor Fuel Transfer Pit Sediment Removal** – Assisting WCH Surveillance Maintenance and Utilities by supplying technical support for ongoing removal of sediment in the fuel transfer pits of the 105-B Reactor Fuel Storage Basin. Currently awaiting decision to proceed with grouting/fixing the remaining sediment in place.

**105-B Reactor Washpad Annex** – Demolition of the Washpad Annex to slab and restoration of the roof flashing is complete.

**151-B Electrical Switchyard** – Planning activities for demolition of the switchyard are underway.

⑦

# Attachment 8

**^WCH Document Control**

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**From:** Warren, David J  
**Sent:** Monday, June 10, 2013 12:46 PM  
**To:** ^WCH Document Control  
**Subject:** FW: Addition of sites to the scope of the 100-H Air Monitoring Plan

**Attachments:** 0100H-CA-V0181 Rev. 2.pdf

Please CHRON this email and opened attachment as Ecology and DOH Approval of addition of 100-H-42 and 100-H-28:2 to the scope of the Air Monitoring Plan (AMP) for 100-H Area Remaining sites and Burial Grounds Remedial Action. Please advise me of the CHRON number once completed. Thanks.

Dave Warren  
539-6040

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**From:** Kapell, Arthur (ECY) [<mailto:akap461@ECY.WA.GOV>]  
**Sent:** Monday, June 10, 2013 10:39 AM  
**To:** Warren, David J  
**Subject:** RE: Addition of sites to the scope of the 100-H Air Monitoring Plan

Dave,

Sorry for the delay in getting back to you concerning the 100-H site revised TEDE calculations. Neither DOH nor Ecology has additional comments regarding the release heights.

Artie Kapell  
Washington State Department of Ecology  
Nuclear Waste Program  
(509) 372-7895  
[akap461@ecy.wa.gov](mailto:akap461@ecy.wa.gov)

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**From:** Warren, David J [<mailto:djwarren@wch-rcc.com>]  
**Sent:** Monday, May 20, 2013 8:57 AM  
**To:** Kapell, Arthur (ECY)  
**Subject:** FW: Addition of sites to the scope of the 100-H Air Monitoring Plan

Artie,

Sorry about the delay in getting this out. Please see revised TEDE calc for the 100-H Sites (100-H-42 and 100-H-28:2) that incorporated the DOH's response regarding the release height of 0 vs 1 meter that were used in the calculations and respective models. If you'll notice, the input used for both is now 1 rather than 0. This did change some of the individual TEDE numbers so those are different from the previous revision, but it did not affect the overall TEDE. Please let me know if you or the Department of Health have any other comments. Thanks!

Dave Warren  
539-6040



0100H-CA-V018  
Rev. 2.pdf (2 M.)

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**From:** Kapell, Arthur (ECY) [<mailto:akap461@ECY.WA.GOV>]  
**Sent:** Wednesday, May 01, 2013 9:54 AM  
**To:** Warren, David J  
**Cc:** Boyd, Alicia  
**Subject:** RE: Addition of sites to the scope of the 100-H Air Monitoring Plan

Dave,

Attached here are the Department of Health's comments regarding the planned addition of sites to the 100-H Air Monitoring Plan.

<< File: AIR 13-405\_100-H AMP additions.pdf >>

In addition to these comments I add the following:

Page 5, line 17, footnote 2 as well as the same footnote on pages 6 and 7: Is the inventory of HEPA filters supposed to be 0.1% of the particulate inventor of each radionuclide, as opposed to the 1% which is written?

Artie Kapell  
Washington State Department of Ecology  
Nuclear Waste Program  
(509) 372-7895  
[akap461@ecy.wa.gov](mailto:akap461@ecy.wa.gov)

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**From:** Warren, David J [<mailto:djwarren@wch-rcc.com>]  
**Sent:** Wednesday, April 03, 2013 9:49 AM  
**To:** Kapell, Arthur (ECY)  
**Subject:** Addition of sites to the scope of the 100-H Air Monitoring Plan

Artie,

WCH is requesting to add sites with potential for radiological contamination to the scope of the Air Monitoring Plan (AMP) for 100-H Area Remaining sites and Burial Grounds Remedial Action. I believe I previously sent you a copy of the AMP, please let me know if you would like me to send it again. Based on the excerpt from Section 1.1 of the AMP below, Ecology concurrence of this e-mail will be entered as an agreement at the UMM.

<< OLE Object: Picture (Enhanced Metafile) >>

The sites being proposed for addition are the following: 100-H-42, 100-H-51:2, 100-H-49:1, 100-H-51:6, and 100-H-59. The Total Effective Dose Equivalent (TEDE) calculations for those sites are attached. If you recall from previous Interface meetings where we've discussed this topic, generally the process for adding sites with a potential for radiological contamination to an AMP is based on the premise that the sum of the TEDE calculations from the original scope of the AMP is considered bounding due to the fact that combined inventory of the original sites is much larger than the combined inventory of much smaller number of sites proposed to be added. Additionally, AMPs are generally conservative in that fact that they assume that all of the sites included in the scope are remediated in one years time, as is the case with the 100-H AMP. The original 100-H AMP calculated TEDE was 1.21 E-1 millirem/year total to the Maximally

Exposed Individual (MEI) for the sum of all radiological sites to be remediated. For the sites WCH proposes to add the total is  $2.51 \text{ E-2}$  millirem/year to the MEI for the 5 sites combined.

Please review this request and forward on to the appropriate contacts as necessary. Feel free to contact me if you have any questions. Thanks for your time.

Dave Warren  
100-D/H Area EPL  
WCH  
539-6040

<< File: TEDE Calc 1.pdf >>    << File: TEDE Calc 2.pdf >>

# CALCULATION COVER SHEET

Project Title: Field Remediation Job No. 14655

Area: 100-H

Discipline: Environmental \*Calculation No: 0100H-CA-V0181

Subject: Total Effective Dose Equivalent (TEDE) for the 100-H-42 and 100-H-51:2 Waste Sites

Computer Program: CAP88-PC, Excel Program No: Ver. 3.0, 2003

The attached calculations have been generated for a specific purpose and task. Use of the calculations by persons who do not have access to all pertinent facts may lead to incorrect conclusions and/or results. Before applying these calculations to your work, the underlying basis, rationale, and other pertinent information relevant to these calculations must be thoroughly reviewed with appropriate Washington Closure Hanford LLC (WCH) officials or other authorized personnel. WCH is not responsible for the use of a calculation not under its direct control.

Committed Calculation  Preliminary  Superseded  Voided

Rev.	Sheet Numbers	Originator	Checker	Reviewer	Approval	Date
0	Total = 22	K. A. Anselm	T. M. Blakley	D. G. Saueressig	S. G. Wilkinson	8/30/11
1	Total = 22	K. A. Anselm	T. M. Blakley	TMB for D. J. Warren	D. F. Obenauer	5/7/13
2	Total = 22	<i>K. Anselm</i> K. A. Anselm	<i>T. M. Blakley</i> T. M. Blakley	<i>D. J. Warren</i> D. J. Warren	<i>D. F. Obenauer</i> D. F. Obenauer	<i>5/9/13</i>

## SUMMARY OF REVISION

1	Revised sheet 2 source height from 0 to 1 meter above ground to be consistent with model.
2	Revised source height from 0 to 1 meter above ground and reran model. Attachment C replaced in entirety.

	A	B	C	D	E	F	G	H	I	J		
1	WASHINGTON CLOSURE											
2	HANFORD LLC											
3	CALCULATION SHEET											
4	Originator	K. A. Anselm <i>KAA</i>			Date	08/29/11		Calc. No.	0100H-CA-V0181		Rev. No.	0
5	Project	100-H Area Remediation			Job No.	14655		Checked	T. M. Blakley <i>TMB</i>		Date	8/30/11
6	Subject	Total Effective Dose Equivalent (TEDE) for the 100-H-42 and 100-H-51:2 Waste Sites							Sheet No.	1 of 6		
7												
8	<b>Results Summary</b>											
9												
10	CAP88-PC output for the 100-H-42 and 100-H-51:2 Waste Sites located in the 100-HR-1 Operable Unit was generated using											
11	calculated potential to emit (PTE) values with a distance to a maximally exposed individual (MEI) of 10,480 meters East at the											
12	site boundary. A map of the distances from these sites to various boundaries is shown in Attachment A, the wind input file is											
13	shown in Attachment B, and the CAP88-PC synopsis and summary outputs are shown in Attachment C.											
14												
15	The total effective dose equivalent (TEDE) to the MEI is = 2.39E-03 mrem/yr.											
16												
17												
18	<b>Table of Contents</b>											
19												
20	<b>Sheet</b>	<b>Description</b>										
21	1	Results Summary, Table of Contents, Purpose, Background										
22	2	Given/Assumed Information, Calculation Outline										
23	3	Calculations, Table 1										
24	4	Calculations (continued), Tables 2 and 3										
25	5	Calculations (continued)										
26	6	Calculations (continued), Results, References										
27												
28	<b>Attachment</b>	<b>Pages</b>	<b>Description</b>									
29	A	2	Distances from 100-H Area to LIGO, Energy Northwest and the Hanford Boundary									
30	B	1	Hanford Wind File for the 100-F Area (a06100f.wnd) (nearest available to 100-H)									
31	C	12	CAP88-PC Synopsis and Summary Reports									
32												
33												
34	<b>Purpose</b>											
35												
36	Calculate the unabated TEDE (In mrem/year) to the MEI resulting from air emissions from the remediation of the 100-H-42 and											
37	100-H-51:2 Waste Sites, in accordance with WAC 246-247-110(15).											
38												
39	<b>Background</b>											
40												
41	Remediation of the 100-H-42 and 100-H-51:2 waste sites is part of the ongoing multi-year remediation activities being conducted											
42	within the 100-H Area of the Hanford Site. The following provides a description of the two waste sites.											
43												
44	<b>100-H-42, 1906-H Drainage Lift Station</b>											
45	The 1906-H lift station was built to receive process sewer discharges from 100-H Area buildings. This site consists of four											
46	components: 1) remnants of the former 1906-H facility foundation; 2) an 183 cm (72 in.) diameter, 36.8 m (120 ft) long											
47	reinforced concrete pipeline that exits the east side of the 1906-H facility and connects to the 1904-H outfall structure; 3) a 15.2											
48	cm (6 in.) diameter, 87 m (220 ft) long steel pipeline that conveyed effluent from the 1904-H outfall structure to the 1908-H											
49	effluent monitoring station; and 4) a 20.3 cm (8 in.) diameter, 94 m (308 ft) long steel sample drain line that conveyed effluent											
50	back from the 1908-H effluent monitoring station to the 1904-H outfall structure (WCH 2009a).											
51												
52	<b>100-H-51:2, 117 Seal Pit Crib Feedline</b>											
53	This site is a 106 m (347 ft) long, 10 cm (4 in.) diameter cement asbestos pipeline that transported drainage from the 117-H Air											
54	Filter Building to the 116-H-9 Seal Pit Crib. During operation, the 117-H building filtered ventilation air from the reactor building											
55	containment zone prior to discharge to the environment (WCH 2009b).											
56												
57												
58												

	A	B	C	D	E	F	G	H	I	J	K	L
1	WASHINGTON CLOSURE											
2	HANFORD LLC			CALCULATION SHEET								
3	Originator <u>K. A. Anselm</u> <i>KAA</i>			Date <u>05/02/13</u>		Calc. No. <u>0100H-CA-V0181</u>		Rev. No. <u>1</u>				
4	Project <u>100-H Area Remediation</u>			Job No. <u>14655</u>		Checked <u>T. M. Blakley</u> <i>TMB</i>		Date <u>05/02/13</u>				
5	Subject <u>Total Effective Dose Equivalent (TEDE) for the 100-H-42 and 100-H-51:2 Waste Sites</u>			Sheet No. <u>2 of 6</u>								
6												
7												
8	<b>Given/Assumed Information</b>											
9												
10	The scope of work for waste site remediation includes removal of contaminated soil, debris, and pipelines from the waste											
11	sites, reducing the size of any debris over 3 m (10 ft) in length, placing waste in Environmental Restoration Disposal Facility											
12	(ERDF) containers, and shipping the containers to ERDF for disposal. The inventory of radionuclides is provided in the											
13	Determination of Material at Risk for these sites (WCH 2011).											
14												
15	All pipes and debris material greater than 3 m (10 ft) in length will be size reduced. The material may be cut using shears or											
16	a torch. The use of a torch cutter is not expected and is not included in the calculations. High-efficiency particulate air											
17	(HEPA) vacuum use is not expected at these sites during remediation or equipment decontamination actions. Therefore,											
18	these release fractions are not included in the summing of PTE values.											
19												
20	The height of lid (1000 m) is the rounded average of winter and summer mean afternoon mixing heights (500 m and											
21	2000 m, respectively) for southeastern Washington, as shown on pages 32 and 34 of Holzworth (1972).											
22												
23	Annual precipitation (17.7 cm) is the normal annual precipitation for the Hanford Site as reported in Section 8.16.1 of Pacific											
24	Northwest National Laboratory (PNNL) (2010).											
25												
26	Annual ambient temperature (11.6 degree C) is the normal mean annual temperature for the Hanford Site as reported in											
27	Section 8.16.2 of PNNL (2010).											
28												
29	Additional CAP88-PC parameters include: a source height of 1 m above ground was used; Time Step Days were set to a											
30	value of 10, and decay chains were limited to 5.											
31												
32	The following interpretation of the data was made:											
33												
34	Ba-137m is assumed to be present as 94.6% of Cs-137											
35	Y-90 is assumed to be present as 100% of Sr-90											
36	U-233/U-234 is assumed to be all U-233											
37	Pu-239/Pu-240 is assumed to be all Pu-239											
38	H-3 is assumed to be a gas and has a release fraction of 1 for all calculated inventories.											
39												
40												
41	<b>Calculation Outline</b>											
42												
43	The calculation has three steps:											
44												
45	a. Calculate the inventory based on the material-at-risk calculation (WCH 2011).											
46	b. Calculate the PTE for each radionuclide for each mode of release.											
47	c. Calculate the TEDE to the MEI.											
48												
49												
50												

	A	B	C	D	E	F	G	H	I	J	K
--	---	---	---	---	---	---	---	---	---	---	---

WASHINGTON CLOSURE  
HANFORD LLC

CALCULATION SHEET

1  
2  
3 Originator K. A. Anselm *CAA* Date 08/29/11 Calc. No. 0100H-CA-V0181 Rev. No. 0  
4 Project 100-H Area Remediation Job No. 14855 Checked T. M. Blakley *JMB* Date 8/30/11  
5 Subject Total Effective Dose Equivalent (TEDE) for the 100-H-42 and 100-H-51:2 Waste Sites Sheet No. 3 of 8  
6  
7

8 **Calculations**  
9

10 The following examples step through the process using values from Table 1 below for the 100-H-42 site.

- 11  
12 a. Calculate the inventory based on the material-at-risk calculation (WCH 2011), which is shown in Column B below.  
13  
14 b. Calculate the PTE for each radionuclide for each mode of release. Use the following calculation:

15  
16 Potential to Emit = (Inventory) x (Release Fraction)

17  
18 Where:

19 Inventory = Column B (particulates) of Table 1 below  
20 Release Fraction = Column D (from WAC 246-247-030)

21  
22 For example, for Am-241, the particulate inventory is: 5.4E-03 Ci  
23 The release fraction for particulates per WAC 246-247-030 is: 0.001  
24 PTE (5.4E-03) x (0.001) is: 5.4E-06 Ci/yr  
25

26 The calculated PTE for particulates is then summed to provide the total PTE for each radionuclide per site as shown  
27 in Tables 1 and 2. The combined values of both sites are shown in Table 3.  
28  
29

30 **Table 1. Calculated Potential to Emit for 100-H-42.**

Isotope	Particulates		
	Inventory (Ci) <sup>1,2</sup>	RF	PTE (Ci/yr)
Am-241	5.4E-03	0.001	5.4E-06
Ba-137m	8.9E-01	0.001	8.9E-04
C-14	2.7E-01	0.001	2.7E-04
Co-60	2.7E+01	0.001	2.7E-02
Cs-137	9.4E-01	0.001	9.4E-04
Eu-152	1.6E+00	0.001	1.6E-03
Eu-154	1.6E+00	0.001	1.6E-03
Eu-155	1.3E-01	0.001	1.3E-04
Pu-238	4.1E-02	0.001	4.1E-05
Pu-239/240	1.5E-01	0.001	1.5E-04
Sr-90	2.1E-02	0.001	2.1E-05
U-233/234	1.1E-02	0.001	1.1E-05
U-235	7.9E-03	0.001	7.9E-06
U-238	3.8E-01	0.001	3.8E-04
Y-90	2.1E-02	0.001	2.1E-05

49 <sup>1</sup> Inventory from WCH (2011).  
50 <sup>2</sup> Torch cutting and HEPA vacuum use is not anticipated at this site.  
51  
52

	A	B	C	D	E	F	G	H	I	J	K
1	WASHINGTON CLOSURE		CALCULATION SHEET								
2	HANFORD LLC										
3	Originator	K. A. Anselm <i>KAA</i>	Date	08/29/11	Calc. No.	0100H-CA-V0181	Rev. No.	0			
4	Project	100-H Area Remediation	Job No.	14655	Checked	T. M. Blakley <i>TMB</i>	Date	3/30/11			
5	Subject	Total Effective Dose Equivalent (TEDE) for the 100-H-42 and 100-H-51:2 Waste Sites						Sheet No.	4 of 6		
6											
7											
8	Calculations (continued)										
9											
10											
11	Table 2. Calculated Potential to Emit for 100-H-51:2.										
12	Particulates										
13		Inventory	RF	PTE							
14	Isotope	(Ci) <sup>1,2</sup>		(Ci/yr)							
15	Ba-137m	1.9E-02	0.001	1.9E-05							
16	C-14	1.1E-03	0.001	1.1E-06							
17	Co-60	5.6E-01	0.001	5.6E-04							
18	Cs-137	2.0E-02	0.001	2.0E-05							
19	Eu-152	3.3E-02	0.001	3.3E-05							
20	Eu-154	3.3E-02	0.001	3.3E-05							
21	Eu-155	2.6E-03	0.001	2.6E-06							
22	H-3	1.9E-03	1	1.9E-03							
23	Pu-238	8.5E-04	0.001	8.5E-07							
24	Pu-239/240	6.5E-03	0.001	6.5E-06							
25	Sr-90	5.1E-03	0.001	5.1E-06							
26	U-233/234	2.3E-04	0.001	2.3E-07							
27	U-235	1.6E-04	0.001	1.6E-07							
28	U-238	7.8E-03	0.001	7.8E-06							
29	Y-90	5.1E-03	0.001	5.1E-06							
30	<sup>1</sup> Inventory from WCH (2011).										
31	<sup>2</sup> No torch cutting or HEPA vacuum use is anticipated at this waste site.										
32											
33											
34	Table 3. Potential to Emit for All Sites.										
35	Potential to Emit (Ci/y)										
36	Isotope	100-H-42		100-H-51:2	Total PTE						
37											
38	Am-241	5.4E-06	0.0E+00	5.4E-06							
39	Ba-137m	8.9E-04	1.9E-05	9.1E-04							
40	C-14	2.7E-04	1.1E-06	2.8E-04							
41	Co-60	2.7E-02	5.6E-04	2.7E-02							
42	Cs-137	9.4E-04	2.0E-05	9.6E-04							
43	Eu-152	1.6E-03	3.3E-05	1.6E-03							
44	Eu-154	1.6E-03	3.3E-05	1.6E-03							
45	Eu-155	1.3E-04	2.6E-06	1.3E-04							
46	H-3	0.0E+00	1.9E-03	1.9E-03							
47	Pu-238	4.1E-05	8.5E-07	4.2E-05							
48	Pu-239/240	1.5E-04	6.5E-06	1.6E-04							
49	Sr-90	2.1E-05	5.1E-06	2.6E-05							
50	U-233/234	1.1E-05	2.3E-07	1.1E-05							
51	U-235	7.9E-06	1.6E-07	8.0E-06							
52	U-238	3.8E-04	7.8E-06	3.9E-04							
53	Y-90	2.1E-05	5.1E-06	2.6E-05							
54											
55											
56											

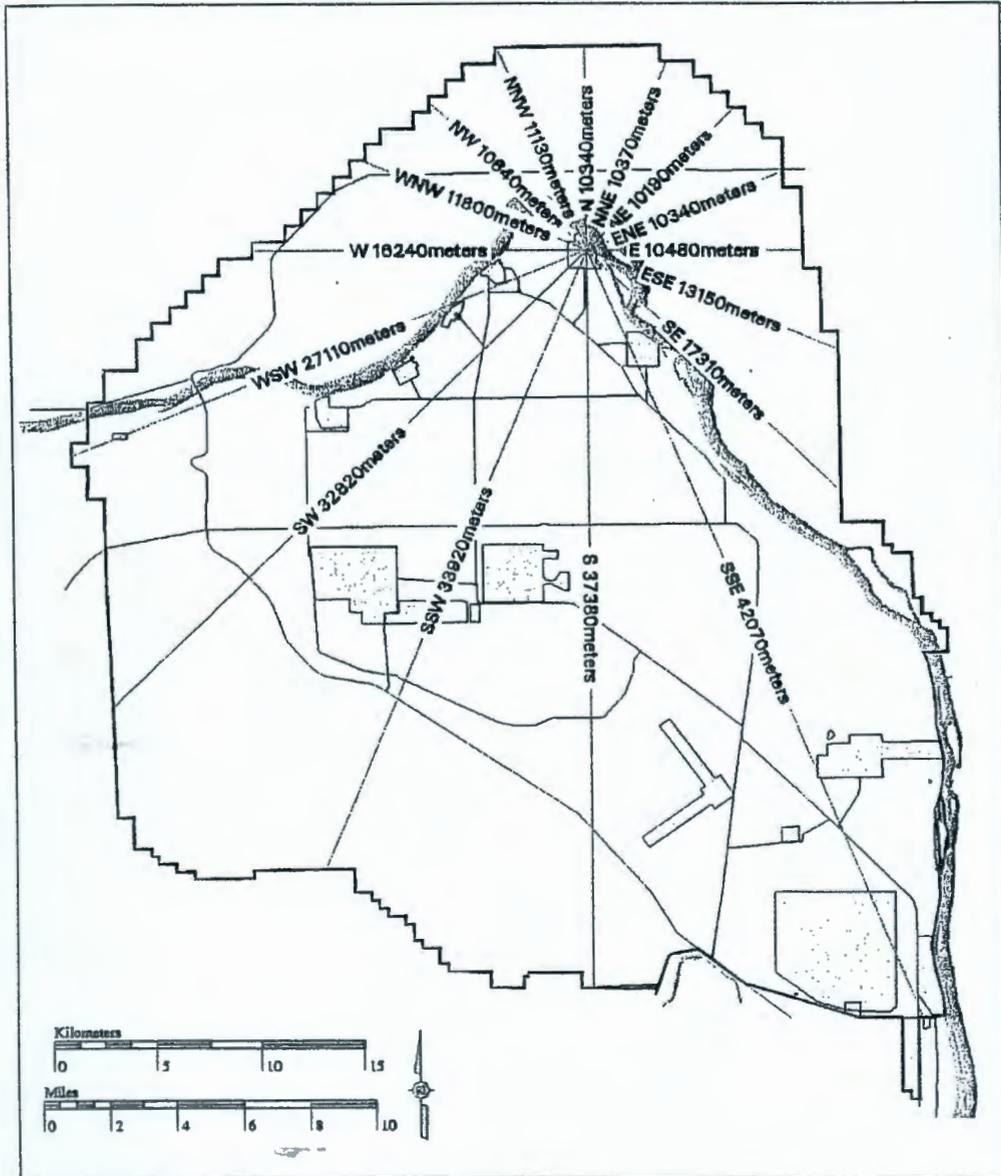
	A	B	C	D	E	F	G	H	I	J	K	L	
1	WASHINGTON CLOSURE												
2	HANFORD LLC												
3	CALCULATION SHEET												
4	Originator	K. A. Anselm	<i>KAA</i>	Date	08/29/11	Calc. No.	0100H-CA-V0181	Rev. No.	0				
5	Project	100-H Area Remediation	Job No.	14655	Checked	T. M. Blakley	<i>TMB</i>	Date	8/30/11				
6	Subject	Total Effective Dose Equivalent (TEDE) for the 100-H-42 and 100-H-51:2 Waste Sites							Sheet No.	5 of 6			
7													
8	Calculations (continued)												
9													
10	c. Calculate the TEDE to the MEI:												
11													
12	CAP88-PC, Version 3.0 is used to calculate the dose to the MEI. In accordance with the requirements of												
13	ENG-1-4.5, a test problem titled "MODTEST," supplied by the software author, was run as the validation												
14	test of the CAP88-PC program. Results were in agreement with the results documented in the user's guide												
15	for CAP88-PC, Version 3.0 (Rosnick 2007).												
16													
17	The distance to the site boundary used in the CAP88-PC model runs are shown in Attachment A. By												
18	regulation [WAC 246-247-030 (15)], the MEI is any member of the public (real or hypothetical) who abides												
19	or resides in an unrestricted area, and may receive the highest TEDE from the emission unit(s) under												
20	remediation, taking into account all exposure pathways by the radioactive emissions. For the purposes of												
21	this calculation, and for each source term being considered, the MEI was assumed to be located at the												
22	Hanford Site boundary at a compass bearing from the source that yielded the highest dose from all air												
23	pathways, as computed by the CAP88-PC program. However, as directed by Washington Department of												
24	Health, the Laser Interferometer Gravitational-Wave Observatory (LIGO) and the Energy Northwest												
25	Columbia Generating Station are considered off-site for the purpose of determining the location of the MEI												
26	(WDOH 1994). These distances are also shown in Attachment A. Distances to the site boundary were												
27	computed using the Hanford Geographic Information System.												
28													
29	The Hanford wind file for the 100-H Area does not exist; therefore, the 100-F Area wind file (a06100f.wnd)												
30	was used for the models. The data file is shown in Attachment B. This wind file is based on average data												
31	collected at 100-F Area between 1986 and 2006 at the 10-meter level.												
32													
33	Distances to the site boundary in 16 compass directions plus the distances to other potential onsite non-												
34	DOE related business locations (i.e., LIGO and the Energy Northwest Columbia Generating Station) are												
35	input into the CAP88-PC model to show the dose at the site boundary in all directions and for potential												
36	onsite receptor locations. However, CAP88-PC automatically calculates the "individual effective dose												
37	equivalent" for each distance in all directions (sheets 9 and 10 of Attachment C).												
38													
39	By default, CAP88-PC will take the maximum "individual effective dose equivalent" regardless of direction												
40	or distance and use it as the basis for the dose to the maximally exposed individual and report it as the												
41	"effective dose equivalent" and the nuclide specific dose equivalent summary (Attachment C). The result is												
42	that the maximum "individual effective dose equivalent" selected from the matrix of individual effective dose												
43	equivalents is at a location that is not on the site boundary or other onsite non-DOE related business												
44	location. To determine the maximum effective dose equivalent at the site boundary or non-DOE related												
45	business location, a review of the summary report is conducted to determine which of the 16 compass												
46	directions and the site boundary or onsite non-DOE related business location distance inputs result in the												
47	maximum "individual effective dose equivalent."												
48													
49	The ILOC and JLOC parameters in the DEFAULT.DAT file are therefore changed within CAP88-PC so that												
50	the "effective dose equivalent" and the nuclide specific dose equivalent summary are reported based on												
51	the maximum "individual effective dose equivalent" at a location that is at the site boundary (or other												
52	"onsite" non-DOE related business location).												
53													
54	A point source is assumed. Establishing the exact size of the source is not necessary because in cases												
55	where the ratio of distance to the receptor/source diameter is 2.5 or greater, CAP88-PC automatically												
56	models an area source as a point source (Rosnick 2007).												
57													
58													

	A	B	C	D	E	F	G	H	I	J
1	WASHINGTON CLOSURE									
2	HANFORD LLC		CALCULATION SHEET							
3	Originator	K. A. Anselm <i>KAA</i>	Date	08/29/11	Calc. No.	0100H-CA-V0181	Rev. No.	0		
4	Project	100-H Area Remediation	Job No.	14655	Checked	T. M. Blakley <i>TMB</i>	Date	8/30/11		
5	Subject	Total Effective Dose Equivalent (TEDE) for the 100-H-42 and 100-H-51:2 Waste Sites					Sheet No.	8 of 8		
6										
7										
8	Calculations (continued)									
9										
10										
11	The closest distance to the site boundary from the 100-H Area is 10,190 m Northeast (Attachment A).									
12	Consequently, any source with a diameter less than $10,190/2.5 = 4,076$ m will be treated as a point source									
13	by CAP88-PC. The maximum dimension of the waste sites is 106 m (WCH 2009a, WCH 2009b), which is much									
14	smaller than the distance that would be treated as a point source.									
15										
16	Other input parameters to the CAP88-PC program are as shown in the CAP88-PC synopsis and summary reports									
17	(Attachment C).									
18										
19	Input radionuclide PTE quantities into CAP88-PC.									
20										
21										
22	Results									
23										
24	CAP88-PC output for the 100-H-42 and 100-H-51:2 waste sites was generated. The distance to the MEI is 10,480 meters									
25	East at the site boundary. CAP88-PC summary and synopsis outputs are in Attachment C.									
26										
27	The TEDE to the MEI is = 2.39E-03 mrem/yr.									
28										
29										
30	References									
31										
32										
33	ENG-1, <i>Engineering Services</i> , ENG-1-4.5 "Project Calculations," Washington Closure Hanford, LLC., Richland, Washington.									
34										
35	Holzworth, G. C., 1972, <i>Mixing Heights, Wind Speeds, and Potential for Urban Air Pollution Throughout the Contiguous</i>									
36	<i>United States</i> , Office of Air Programs, AP-101, (NTIS Accession No. PB 207103), U.S. Environmental Protection Agency,									
37	Research Triangle Park, North Carolina.									
38										
39	PNNL, 2010, <i>Hanford Site Environmental Report for Calendar Year 2009</i> , PNNL-19455, Pacific Northwest National									
40	Laboratory, Richland, Washington.									
41										
42	Rosnick, R., 2007, <i>CAP88-PC Version 3.0 User Guide</i> , December 9, 2007, prepared by Trinity Engineering Associates, Inc.,									
43	for the U.S. Environmental Protection Agency, Washington, D.C.									
44										
45	WAC 246-247, "Radiation Protection - Air Emissions," <i>Washington Administrative Code</i> , as amended.									
46										
47	WCH, 2009a, <i>100-H-42 Remaining Site for Remedial Action</i> , Interoffice Memorandum from M. L. Proctor to R. A. Carlson,									
48	CCN 145887, dated August 11, 2009, Washington Closure Hanford, Richland, Washington.									
49										
50	WCH, 2009b, <i>100-H-51:2 Remaining Site for Remedial Action</i> , Interoffice Memorandum from M. L. Proctor to R. A. Carlson,									
51	CCN 146382, dated August 31, 2009, Washington Closure Hanford, Richland, Washington.									
52										
53	WCH, 2011, <i>Determination of Material at Risk for 100-H Failed Confirmatory Sites</i> , 0100H-CA-N0036, Rev. 0, Washington									
54	Closure Hanford, Richland, Washington.									
55										
56	WDOH, 1994, Letter AIR 94-802, A. W. Conklin to S. H. Wisness, August 1, 1994, Washington Department of Health.									
57										

Attachment A

Originator:	K. A. Anselm <i>KAA</i>	Date:	08/29/11
Checked:	T. M. Blakley <i>TMB</i>	Date:	8/29/11
Calc. No.:	0100H-CA-V0181	Rev. No.:	0
		Sheet No.:	1 of 2

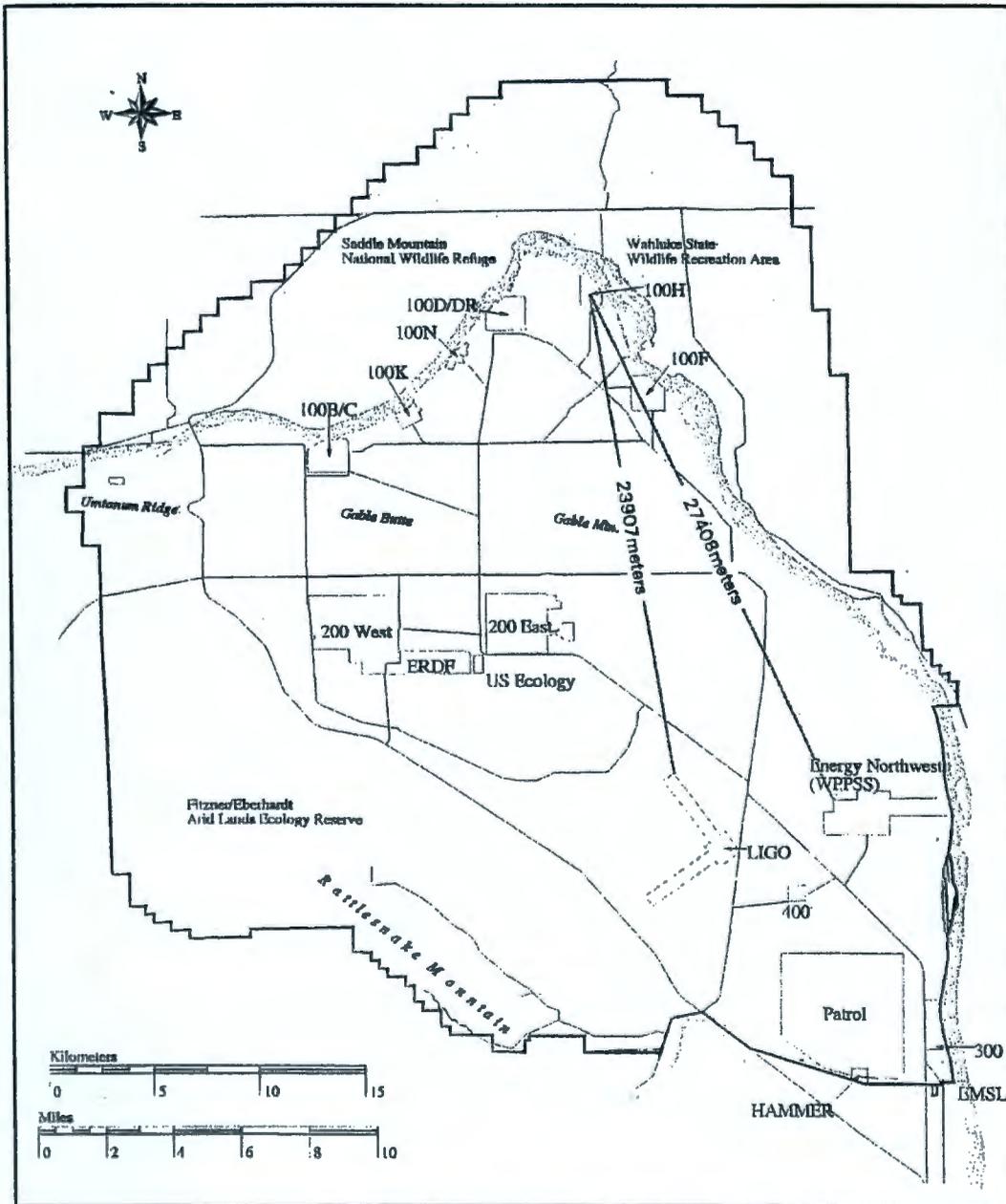
Hanford Site Distances from 100H Area



**Attachment A**

Originator:	K. A. Anselm	Date:	08/29/11
Checked:	T. M. Blakley	Date:	
Calc. No.:	0100H-CA-V0181	Rev. No.:	0
		Sheet No.:	2 of 2

**Distances from 100-H to LIGO and Energy Northwest**



### Attachment B

Originator:	K. A. Anselm <i>KAA</i>	Date: 08/29/11
Checked:	T. M. Blakley <i>TMB</i>	Date: 8/30/11
Calc. No.:	0100H-CA-V0181	Rev. No.: 0
		Sheet No.: 1 of 1

### Hanford Wind File for the 100-F Area (nearest available to 100-H) (a06100F.wnd)

000

```

0.00000
.049 .114 .110 .043 .029 .026 .028 .037 .051 .051 .077 .129 .106
.065 .046 .036
1.85 1.89 2.08 2.03 1.81 1.88 1.98 2.18 2.40 1.86 2.31 3.36 2.96 2.98 2.54 1.88
1.58 1.82 2.03 1.81 1.47 1.54 1.63 2.02 2.17 1.72 1.74 2.48 2.35 2.52 2.24 1.68
1.53 1.75 1.87 1.68 1.57 1.66 1.74 1.85 2.05 1.69 1.75 2.35 2.11 2.51 2.06 1.55
1.56 1.81 1.94 1.53 1.39 1.50 1.54 1.78 1.80 1.54 1.63 2.29 2.01 1.94 1.89 1.66
1.42 1.97 1.93 1.21 1.18 1.30 1.36 1.41 1.33 1.27 1.36 1.96 1.87 1.66 1.55 1.42
1.17 1.99 1.82 1.10 1.03 1.18 1.12 1.10 1.13 1.17 1.20 1.20 1.25 1.15 1.04 1.02
1.11 1.84 1.68 1.07 .98 1.01 .99 .99 1.01 1.11 1.21 1.18 1.16 1.07 .95 .97
3.06 2.78 2.99 2.90 2.48 2.63 3.20 3.32 3.36 2.68 4.38 5.58 4.63 5.10 4.51 3.08
2.54 2.70 2.90 2.67 2.09 2.19 2.83 3.21 3.11 2.59 3.31 4.68 3.88 4.66 4.30 3.10
2.50 2.59 2.78 2.61 2.22 2.34 2.64 2.75 2.98 2.57 3.20 4.48 3.69 4.75 4.34 2.66
2.84 2.78 2.84 2.30 1.98 2.29 2.57 2.96 2.77 2.36 3.08 4.21 3.58 3.92 4.14 3.60
2.43 2.85 2.82 1.70 1.68 1.93 2.24 2.75 2.10 1.87 2.18 3.43 3.13 2.97 3.08 2.81
1.57 2.79 2.64 1.42 1.30 1.63 1.49 1.62 1.56 1.64 1.60 1.65 1.81 1.62 1.39 1.25
1.41 2.68 2.51 1.33 1.12 1.21 1.16 1.16 1.20 1.46 1.60 1.54 1.53 1.38 1.07 1.10
.1230 .0512 .0430 .2582 .2869 .1824 .0553
.0865 .0402 .0341 .2194 .2955 .2517 .0726
.1269 .0544 .0471 .2611 .2584 .1904 .0617
.2419 .0714 .0599 .2604 .1797 .1313 .0553
.2560 .0717 .0648 .2423 .1809 .1331 .0512
.2308 .0692 .0577 .2654 .2038 .1308 .0423
.2143 .0750 .0571 .2679 .2214 .1179 .0464
.2413 .0885 .0590 .2788 .1877 .1099 .0349
.2344 .0820 .0625 .2656 .1895 .1211 .0449
.1348 .0488 .0410 .2402 .2441 .1992 .0918
.1004 .0365 .0300 .2203 .2725 .2203 .1199
.1106 .0356 .0286 .2599 .3210 .1632 .0812
.0960 .0339 .0263 .2427 .3575 .1731 .0706
.1376 .0495 .0386 .2550 .3215 .1468 .0510
.1572 .0546 .0459 .2751 .2948 .1288 .0437
.1319 .0440 .0385 .2857 .3022 .1511 .0467
    
```

100 F AREA (Station 24) - 10 M - Pasquill A - G (1986 - 2006 Average)  
 Formatted 1/16/08 KR, Received 1/7/08 KWB (PNNL-6415, Rev. 18)  
 Windspeed Classes (m/s): .89 2.65 4.7 7.15 9.8 12.7 15.6 19.0

Attachment C

Originator:	K. A. Anselm <i>KAA</i>	Date: 05/09/13
Checked:	T. M. Blakley <i>TMB</i>	Date: 05/09/13
Calc. No.:	0100H-CA-V0181	Rev. No.: 2
		Sheet No.: 1 of 12

C A P 8 8 - P C

Version 3.0

Clean Air Act Assessment Package - 1988

S Y N O P S I S R E P O R T

Non-Radon Individual Assessment  
May 9, 2013 10:08 am

Facility: Hanford  
Address:  
City: Richland  
State: WA Zip: 99354

Source Category: Point  
Source Type: Area  
Emission Year: 2010

Comments: 100-H Area FY11 Failed Confirmatory Sites  
100-H-42 and 100-H-51:2 (0100H-CA-V0181)

Effective Dose Equivalent  
(mrem/year)

---

2.39E-03

---

At This Location: 10480 Meters East

Dataset Name: 100-H FY11 FCS  
Dataset Date: 5/9/2013 9:24:00 AM  
Wind File: L:\CAP88\CAP88PC3\Wndfiles - Hanford\A06100f

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
Calc. No.:	0100H-CA-V0181	Rev. No.: 2
		Sheet No.: 2 of 12

May 9, 2013 10:08 am

SYNOPSIS  
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 10480 Meters East  
Lifetime Fatal Cancer Risk: 1.28E-09

RADIONUCLIDE EMISSIONS DURING THE YEAR 2010

Nuclide	Type	Size	Source	
			#1 Ci/y	TOTAL Ci/y
Am-241	M	1	5.4E-06	5.4E-06
Ba-137m	M	1	9.1E-04	9.1E-04
C-14	M	1	2.8E-04	2.8E-04
Co-60	M	1	2.7E-02	2.7E-02
Cs-137	F	1	9.6E-04	9.6E-04
Eu-152	M	1	1.6E-03	1.6E-03
Eu-154	M	1	1.6E-03	1.6E-03
Eu-155	M	1	1.3E-04	1.3E-04
H-3	V	0	1.9E-03	1.9E-03
Pu-238	M	1	4.2E-05	4.2E-05
Pu-239	M	1	1.6E-04	1.6E-04
Sr-90	M	1	2.6E-05	2.6E-05
U-233	M	1	1.1E-05	1.1E-05
U-235	M	1	8.0E-06	8.0E-06
U-238	M	1	3.9E-04	3.9E-04
Y-90	M	1	2.6E-05	2.6E-05

SITE INFORMATION

Temperature: 12 degrees C  
Precipitation: 18 cm/y  
Humidity: 8 g/cu m  
Mixing Height: 1000 m

User specified location of max exposed individual.  
(ILOC, JLOC): 13, 5

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
Calc. No.:	0100H-CA-V0181	Rev. No.: 2
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SYNOPSIS  
Page 2

SOURCE INFORMATION

Source Number: 1

Source Height (m): 1.00  
Area (sq m): 153.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Fixed (m): (Fixed Rise)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	1.000	1.000	1.000
Fraction From Assessment Area:	0.000	0.000	0.000
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.  
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

10190	10340	10341	10370	10480	10640	11130
11800	13150	16240	17310	23907	27110	27408
32820	33920	37380	42070			

Attachment C

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
Calc. No.:	0100H-CA-V0181	Rev. No.: 2
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C A P 8 8 - P C

Version 3.0

Clean Air Act Assessment Package - 1988

D O S E   A N D   R I S K   E Q U I V A L E N T   S U M M A R I E S

Non-Radon Individual Assessment

May 9, 2013 10:08 am

Facility: Hanford  
Address:  
City: Richland  
State: WA                      Zip: 99354

Source Category: Point  
Source Type: Area  
Emission Year: 2010

Comments: 100-H Area FY11 Failed Confirmatory Sites  
100-H-42 and 100-H-51:2 (0100H-CA-V0181)

Dataset Name: 100-H FY11 FCS  
Dataset Date: 5/9/2013 9:24:00 AM  
Wind File: L:\CAP88\CAP88PC3\Wndfiles - Hanford\a06100f.wnd

Attachment C

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
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SUMMARY  
Page 1

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	7.72E-04
INHALATION	1.24E-03
AIR IMMERSION	1.41E-06
GROUND SURFACE	3.72E-04
INTERNAL	2.02E-03
EXTERNAL	3.73E-04
TOTAL	2.39E-03

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date:
Calc. No.:	0100H-CA-V0181	Rev. No.: 0
		Sheet No.: 6 of 12

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SUMMARY  
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
Am-241	2.42E-05
Np-237	0.00E+00
Pa-233	0.00E+00
U-233	4.38E-06
Th-229	0.00E+00
Ra-225	0.00E+00
Ac-225	0.00E+00
Fr-221	0.00E+00
At-217	0.00E+00
Bi-213	0.00E+00
C-14	2.96E-07
Co-60	9.93E-04
Cs-137	1.20E-04
Ba-137m	3.04E-06
Eu-152	1.80E-05
Gd-152	0.00E+00
Eu-154	2.12E-05
Eu-155	1.54E-07
H-3	7.13E-08
Pu-238	2.08E-04
U-234	0.00E+00
Th-230	0.00E+00
Ra-226	0.00E+00
Rn-222	0.00E+00
Pu-239	8.62E-04
U-235	2.79E-06
Th-231	7.15E-10
Pa-231	0.00E+00
Ac-227	0.00E+00
Th-227	0.00E+00
Ra-223	0.00E+00
Rn-219	0.00E+00
Po-215	0.00E+00
Pb-211	0.00E+00
Fr-223	0.00E+00
Sr-90	5.58E-06
Y-90	2.06E-08
U-238	1.26E-04
Th-234	2.18E-07
Pa-234m	1.93E-07
Pa-234	1.05E-08
TOTAL	2.39E-03

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
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SUMMARY  
Page 3

CANCER RISK SUMMARY

Cancer	Selected Individual Total Lifetime Fatal Cancer Risk
Esophagu	1.26E-11
Stomach	6.10E-11
Colon	3.38E-10
Liver	9.79E-11
LUNG	3.24E-10
Bone	1.99E-11
Skin	1.15E-12
Breast	5.44E-11
Ovary	2.59E-11
Bladder	3.21E-11
Kidneys	8.03E-12
Thyroid	4.44E-12
Leukemia	7.31E-11
Residual	2.33E-10
Total	1.28E-09
<b>TOTAL</b>	<b>2.57E-09</b>

PATHWAY RISK SUMMARY

Pathway	Selected Individual Total Lifetime Fatal Cancer Risk
INGESTION	7.71E-10
INHALATION	3.08E-10
AIR IMMERSION	7.77E-13
GROUND SURFACE	2.05E-10
INTERNAL	1.08E-09
EXTERNAL	2.06E-10
<b>TOTAL</b>	<b>1.28E-09</b>

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
Calc. No.:	0100H-CA-V0181	Rev. No.: 2
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SUMMARY  
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NUCLIDE RISK SUMMARY

Nuclide	Selected Individual Total Lifetime Fatal Cancer Risk
Am-241	3.81E-12
Np-237	0.00E+00
Pa-233	0.00E+00
U-233	3.52E-12
Th-229	0.00E+00
Ra-225	0.00E+00
Ac-225	0.00E+00
Fr-221	0.00E+00
At-217	0.00E+00
Bi-213	0.00E+00
C-14	2.02E-13
Co-60	9.14E-10
Cs-137	6.10E-11
Ba-137m	1.64E-12
Eu-152	9.86E-12
Gd-152	0.00E+00
Eu-154	1.20E-11
Eu-155	9.54E-14
H-3	4.40E-14
Pu-238	3.62E-11
U-234	0.00E+00
Th-230	0.00E+00
Ra-226	0.00E+00
Rn-222	0.00E+00
Pu-239	1.36E-10
U-235	2.23E-12
Th-231	3.24E-16
Pa-231	0.00E+00
Ac-227	0.00E+00
Th-227	0.00E+00
Ra-223	0.00E+00
Rn-219	0.00E+00
Po-215	0.00E+00
Pb-211	0.00E+00
Fr-223	0.00E+00
Sr-90	3.28E-12
Y-90	6.33E-15
U-238	1.01E-10
Th-234	3.11E-13
Pa-234m	3.09E-14
Pa-234	5.74E-15
TOTAL	1.28E-09

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
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SUMMARY  
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)  
(All Radionuclides and Pathways)

Distance (m)							
Direction	10190	10340	10341	10370	10480	10640	11130
N	1.2E-03	<u>1.2E-03</u>	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03
NNW	2.7E-03	<u>2.6E-03</u>	2.6E-03	2.6E-03	2.6E-03	2.5E-03	<u>2.4E-03</u>
NW	2.3E-03	2.3E-03	2.3E-03	2.2E-03	2.2E-03	<u>2.2E-03</u>	<u>2.1E-03</u>
WNW	8.8E-04	8.6E-04	8.6E-04	8.6E-04	8.5E-04	<u>8.3E-04</u>	7.9E-04
W	6.0E-04	5.9E-04	5.9E-04	5.9E-04	5.8E-04	5.7E-04	5.4E-04
WSW	5.3E-04	5.2E-04	5.2E-04	5.1E-04	5.1E-04	5.0E-04	4.7E-04
SW	5.6E-04	5.5E-04	5.5E-04	5.5E-04	5.4E-04	5.3E-04	5.0E-04
SSW	6.6E-04	6.4E-04	6.4E-04	6.4E-04	6.3E-04	6.2E-04	5.8E-04
S	9.5E-04	9.3E-04	9.3E-04	9.3E-04	9.1E-04	9.0E-04	8.5E-04
SSE	1.3E-03	1.3E-03	1.3E-03	1.3E-03	1.3E-03	1.3E-03	1.2E-03
SE	2.2E-03	2.2E-03	2.2E-03	2.1E-03	2.1E-03	2.1E-03	2.0E-03
ESE	2.9E-03	2.8E-03	2.8E-03	2.8E-03	2.8E-03	2.7E-03	2.6E-03
E	2.5E-03	2.4E-03	2.4E-03	2.4E-03	<u>2.4E-03</u>	2.3E-03	2.2E-03
ENE	1.4E-03	1.4E-03	<u>1.4E-03</u>	1.4E-03	<u>1.4E-03</u>	1.3E-03	1.3E-03
NE	<u>9.5E-04</u>	9.3E-04	9.3E-04	9.3E-04	9.2E-04	9.0E-04	8.5E-04
NNE	8.4E-04	8.3E-04	8.3E-04	<u>8.2E-04</u>	8.1E-04	8.0E-04	7.5E-04

Distance (m)							
Direction	11800	13150	16240	17310	23907	27110	27408
N	1.0E-03	8.7E-04	6.5E-04	6.0E-04	3.5E-04	2.7E-04	2.7E-04
NNW	2.2E-03	1.9E-03	1.5E-03	1.4E-03	8.4E-04	6.6E-04	6.5E-04
NW	1.9E-03	1.7E-03	1.3E-03	1.2E-03	7.1E-04	5.6E-04	5.5E-04
WNW	<u>7.3E-04</u>	6.3E-04	4.7E-04	4.3E-04	2.5E-04	1.9E-04	1.9E-04
W	5.0E-04	4.3E-04	<u>3.2E-04</u>	3.0E-04	1.7E-04	1.3E-04	1.3E-04
WSW	4.4E-04	3.8E-04	<u>2.8E-04</u>	2.6E-04	1.5E-04	<u>1.2E-04</u>	1.2E-04
SW	4.6E-04	4.0E-04	3.0E-04	2.8E-04	1.6E-04	1.3E-04	1.2E-04
SSW	5.4E-04	4.7E-04	3.5E-04	3.2E-04	1.9E-04	1.5E-04	1.5E-04
S	7.8E-04	6.8E-04	5.1E-04	4.7E-04	<u>2.8E-04</u>	2.1E-04	2.1E-04
SSE	1.1E-03	9.7E-04	7.3E-04	6.6E-04	3.8E-04	2.8E-04	<u>2.8E-04</u>
SE	1.8E-03	1.6E-03	1.2E-03	<u>1.1E-03</u>	6.3E-04	4.6E-04	4.5E-04
ESE	2.4E-03	<u>2.1E-03</u>	1.6E-03	<u>1.5E-03</u>	8.5E-04	6.4E-04	6.3E-04
E	2.1E-03	<u>1.8E-03</u>	1.4E-03	1.2E-03	7.4E-04	5.6E-04	5.6E-04
ENE	1.2E-03	1.0E-03	7.7E-04	7.0E-04	4.1E-04	3.2E-04	3.2E-04
NE	7.9E-04	6.8E-04	5.2E-04	4.7E-04	2.8E-04	2.2E-04	2.1E-04
NNE	7.0E-04	6.0E-04	4.5E-04	4.2E-04	2.4E-04	1.9E-04	1.9E-04

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
Calc. No.:	0100H-CA-V0181	Rev. No.: 2
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SUMMARY  
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INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)  
(All Radionuclides and Pathways)

	Distance (m)			
Direction	32820	33920	37380	42070
N	2.1E-04	2.0E-04	1.8E-04	1.5E-04
NNW	5.2E-04	5.0E-04	4.4E-04	3.7E-04
NW	4.4E-04	4.2E-04	3.7E-04	3.1E-04
WNW	1.5E-04	1.4E-04	1.2E-04	1.0E-04
W	1.0E-04	9.7E-05	8.5E-05	7.1E-05
WSW	9.3E-05	8.8E-05	7.7E-05	6.5E-05
SW	9.8E-05	9.4E-05	8.2E-05	6.9E-05
SSW	1.2E-04	1.1E-04	9.7E-05	8.2E-05
S	1.6E-04	1.6E-04	1.4E-04	1.2E-04
SSE	2.2E-04	2.1E-04	1.8E-04	1.6E-04
SE	3.6E-04	3.4E-04	3.0E-04	2.5E-04
ESE	5.0E-04	4.8E-04	4.2E-04	3.6E-04
E	4.4E-04	4.2E-04	3.7E-04	3.1E-04
ENE	2.5E-04	2.4E-04	2.1E-04	1.8E-04
NE	1.7E-04	1.6E-04	1.4E-04	1.2E-04
NNE	1.5E-04	1.4E-04	1.2E-04	1.0E-04

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
Calc. No.:	0100H-CA-V0181	Rev. No.: 2
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SUMMARY  
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INDIVIDUAL LIFETIME RISK (deaths)  
(All Radionuclides and Pathways)

Distance (m)							
Direction	10190	10340	10341	10370	10480	10640	11130
N	6.5E-10	6.4E-10	6.4E-10	6.3E-10	6.3E-10	6.1E-10	5.8E-10
NNW	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.3E-09
NW	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.1E-09
WNW	4.8E-10	4.7E-10	4.7E-10	4.7E-10	4.6E-10	4.5E-10	4.3E-10
W	3.3E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.1E-10	2.9E-10
WSW	2.9E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.7E-10	2.6E-10
SW	3.0E-10	3.0E-10	3.0E-10	3.0E-10	2.9E-10	2.9E-10	2.7E-10
SSW	3.6E-10	3.5E-10	3.5E-10	3.5E-10	3.4E-10	3.4E-10	3.2E-10
S	5.1E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	4.9E-10	4.6E-10
SSE	7.2E-10	7.1E-10	7.1E-10	7.1E-10	7.0E-10	6.8E-10	6.5E-10
SE	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.1E-09	1.1E-09	1.1E-09
ESE	1.6E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.4E-09
E	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.2E-09
ENE	7.6E-10	7.4E-10	7.4E-10	7.4E-10	7.3E-10	7.2E-10	6.8E-10
NE	5.1E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	4.9E-10	4.6E-10
NNE	4.5E-10	4.5E-10	4.5E-10	4.4E-10	4.4E-10	4.3E-10	4.1E-10

Distance (m)							
Direction	11800	13150	16240	17310	23907	27110	27408
N	5.4E-10	4.7E-10	3.5E-10	3.2E-10	1.9E-10	1.5E-10	1.5E-10
NNW	1.2E-09	1.0E-09	8.0E-10	7.4E-10	4.5E-10	3.6E-10	3.5E-10
NW	1.0E-09	9.0E-10	6.9E-10	6.3E-10	3.9E-10	3.0E-10	3.0E-10
WNW	4.0E-10	3.4E-10	2.6E-10	2.4E-10	1.4E-10	1.1E-10	1.0E-10
W	2.7E-10	2.3E-10	1.8E-10	1.6E-10	9.4E-11	7.2E-11	7.1E-11
WSW	2.4E-10	2.1E-10	1.6E-10	1.4E-10	8.4E-11	6.6E-11	6.5E-11
<del>SW</del>	<del>2.5E-10</del>	<del>2.2E-10</del>	<del>1.7E-10</del>	<del>1.5E-10</del>	<del>9.0E-11</del>	<del>7.0E-11</del>	<del>6.9E-11</del>
SSW	3.0E-10	2.6E-10	1.9E-10	1.8E-10	1.1E-10	8.3E-11	8.2E-11
S	4.3E-10	3.7E-10	2.8E-10	2.6E-10	1.5E-10	1.2E-10	1.2E-10
SSE	6.0E-10	5.2E-10	3.9E-10	3.6E-10	2.1E-10	1.6E-10	1.5E-10
SE	9.8E-10	8.5E-10	6.4E-10	5.9E-10	3.4E-10	2.5E-10	2.5E-10
ESE	1.3E-09	1.1E-09	8.5E-10	7.8E-10	4.6E-10	3.5E-10	3.4E-10
E	1.1E-09	9.7E-10	7.3E-10	6.7E-10	4.0E-10	3.1E-10	3.0E-10
ENE	6.3E-10	5.5E-10	4.1E-10	3.8E-10	2.3E-10	1.7E-10	1.7E-10
NE	4.3E-10	3.7E-10	2.8E-10	2.6E-10	1.5E-10	1.2E-10	1.2E-10
NNE	3.8E-10	3.3E-10	2.5E-10	2.3E-10	1.3E-10	1.0E-10	1.0E-10

**Attachment C**

Originator:	K. A. Anselm	Date: 05/09/13
Checked:	T. M. Blakley	Date: 05/09/13
Calc. No.:	0100H-CA-V0181	Rev. No.: 2
		Sheet No.: 12 of 12

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SUMMARY  
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INDIVIDUAL LIFETIME RISK (deaths)  
(All Radionuclides and Pathways)

	Distance (m)			
Direction	32820	33920	37380	42070
N	1.1E-10	1.1E-10	9.6E-11	8.1E-11
NNW	2.8E-10	2.7E-10	2.4E-10	2.0E-10
NW	2.4E-10	2.3E-10	2.0E-10	1.7E-10
WNW	8.2E-11	7.9E-11	6.9E-11	5.8E-11
W	5.6E-11	5.4E-11	4.7E-11	4.0E-11
WSW	5.1E-11	4.9E-11	4.3E-11	3.6E-11
SW	5.4E-11	5.2E-11	4.5E-11	3.8E-11
SSW	6.4E-11	6.2E-11	5.4E-11	4.6E-11
S	9.1E-11	8.7E-11	7.6E-11	6.5E-11
SSE	1.2E-10	1.2E-10	1.0E-10	8.5E-11
SE	1.9E-10	1.9E-10	1.6E-10	1.4E-10
ESE	2.7E-10	2.6E-10	2.3E-10	1.9E-10
E	2.4E-10	2.3E-10	2.0E-10	1.7E-10
ENE	1.4E-10	1.3E-10	1.1E-10	9.7E-11
NE	9.2E-11	8.8E-11	7.7E-11	6.5E-11
NNE	8.0E-11	7.6E-11	6.7E-11	5.6E-11

## Calculation Brief Distribution Sheet

Calculation Number 0100H-CA-V0181, Rev. 2

**Total Effective Dose Equivalent (TEDE) for  
the 100-H-42 and 100-H-51:2 Waste Sites**

<b>TITLE</b>	<b>NAME</b>	<b>ELECTRONIC COPIES</b>
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Checker	T. M. Blakley	1
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Other	J. G. Woolard	1

**Agenda**  
**Environmental Project Lead Meeting**  
**June 11, 2013**

- ❖ Safety Topic – All
  - ❖ Asbestos Inspection Information Response – Landon
  - ❖ Staffing Changes – Landon
  - ❖ ERDF Macroencapsulation Proposal – Landon
- 
- ❖ Round the Table - All

**Next EPL Meeting**

July 9, 2013



# Attachment 9

Activity ID	Activity Name	% Cmpl	RD	Start	Finish	June 2013				July 2013				August 2013				Sept 2013
						03	10	17	24	01	08	15	22	29	05	12	19	
<b>FY13 CPP 100-N AREA CURRENT</b>																		
<b>Excavation</b>																		
NB5B8A	Excavation - 100-N-84:6 (12,721 BCM)	9%	92	10-Apr-13 A	19-Nov-13													
NB5B4A	Excavation - 100-N-84:2 (15,545 BCM)	12%	33	17-Apr-13 A	06-Aug-13													
NB5092A	Excavation - 100-N-95 (2,256.59 BCM)	75%	2	29-Apr-13 A	11-Jun-13													
NB5B1A	Excavation - 100-N-81 (690 BCM)	0%	4	12-Jun-13	18-Jun-13													
NB594A	Excavation - 100-N-99 (40.33 BCM)	0%	1	19-Jun-13	19-Jun-13													
NB597A	Excavation - 628-2 (1,965.73 BCM)	0%	7	19-Jun-13	01-Jul-13													
NB5A3A	Excavation - 100-N-101 (132.36 BCM)	0%	1	20-Jun-13	20-Jun-13													
NB595A	Excavation - 100-N-100 (89.58 BCM)	0%	2	24-Jun-13	25-Jun-13													
NB5A4A	Excavation - 600-340 (132.36 BCM)	0%	1	02-Jul-13	02-Jul-13													
NB5B2A	Excavation - 100-N-83 (20,659 BCM)	0%	28	02-Jul-13	20-Aug-13													
NB590A	Excavation - 100-N-91 (4.05 BCM)	0%	1	05-Aug-13*	05-Aug-13													
NB591A	Excavation - 100-N-94 (51.34 BCM)	0%	1	06-Aug-13	06-Aug-13													
NB5093A	Excavation - 100-N-97 (10.09 BCM)	0%	1	07-Aug-13	07-Aug-13													
NB587A10	Second Phase Excavation - 100-N-79 (500 BCM)	0%	8	12-Aug-13*	22-Aug-13													
NB5B7A	Excavation - 100-N-84:5 (72,786 BCM)	0%	50	21-Aug-13	18-Nov-13													
NB596A	Excavation - 120-N-4 (646.86 BCM)	0%	2	26-Aug-13*	27-Aug-13													
<b>Loadout</b>																		
NB536B20	Plume Loadout - 124-N-2 (1000 USTs)	99%	1	28-Mar-13 A	10-Jun-13													
NB5B8B	Loadout - 100-N-84:6 (20,000 UST)	9%	92	10-Apr-13 A	19-Nov-13													
NB5B4B	Loadout - 100-N-84:2 (34,200 UST)	12%	33	17-Apr-13 A	06-Aug-13													
NB5092B	Loadout - 100-N-95 (611.56 UST)	95%	2	29-Apr-13 A	11-Jun-13													
NB5A1B10	Loadout over IPB quantity - 100-N-93 (48,305)	60%	12	13-May-13 A	27-Jun-13													
NB5B1B	Loadout - 100-N-81 (1,518.0 UST)	0%	4	12-Jun-13	18-Jun-13													
NB594B	Loadout - 100-N-99 (42.1 UST)	0%	1	19-Jun-13	19-Jun-13													
NB597B	Loadout - 628-2 (4,102.56 UST)	0%	7	19-Jun-13	01-Jul-13													
NB5A3B	Loadout - 100-N-101 (220.0 UST)	0%	1	20-Jun-13	20-Jun-13													
NB595B	Loadout - 100-N-100 (49.5 UST)	0%	2	24-Jun-13	25-Jun-13													
NB5A4B	Loadout - 600-340 (220 UST)	0%	1	02-Jul-13	02-Jul-13													
NB5B2B	Loadout - 100-N-83 (45,451 UST)	0%	28	02-Jul-13	20-Aug-13													
NB590B	Loadout - 100-N-91 (0.71 UST)	0%	1	05-Aug-13	05-Aug-13													
NB591B	Loadout - 100-N-94 (49.5 UST)	0%	1	06-Aug-13	06-Aug-13													
NB5093B	Loadout - 100-N-97 (5.94 UST)	0%	1	07-Aug-13	07-Aug-13													
NB587B10	Second Phase Loadout - 100-N-79 (1,000 UST)	0%	8	12-Aug-13*	22-Aug-13													
NB5B7B	Loadout - 100-N-84:5 (50,000 UST)	0%	50	21-Aug-13	18-Nov-13													
NB596B	Loadout - 120-N-4 (1,379.16 UST)	0%	2	26-Aug-13	27-Aug-13													

Actual Work   
 Milestone   
 Actual Milestone  
 Remaining Work   
 % Complete

Data Date: 10-Jun-13

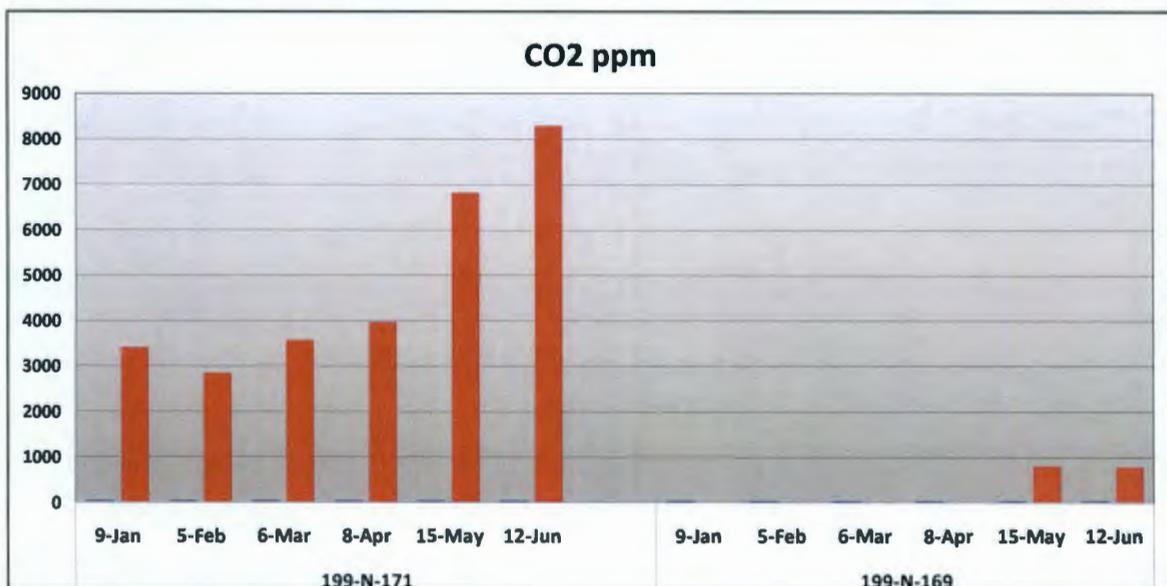
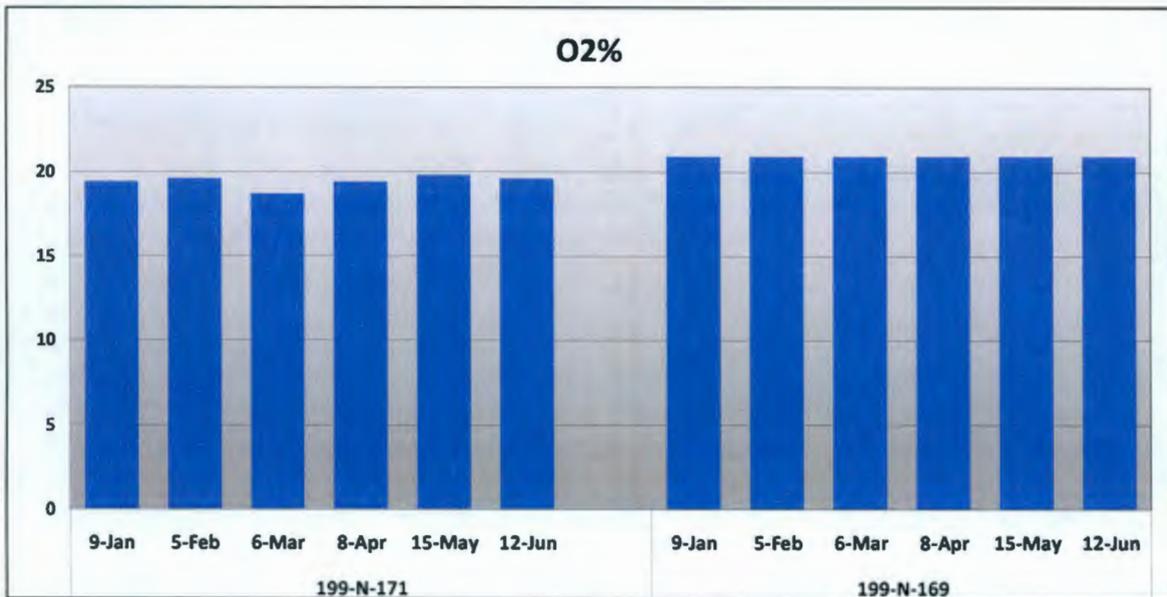
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# Attachment 10

Well #	Date	O2%	CO2 ppm
199-N-171	9-Jan	19.4	3400
	5-Feb	19.6	2840
	6-Mar	18.7	3570
	8-Apr	19.4	3960
	15-May	19.8	6820
	12-Jun	19.6	8290
199-N-169	9-Jan	20.9	0
	5-Feb	20.9	0
	6-Mar	20.9	0
	8-Apr	20.9	0
	15-May	20.9	800
	12-Jun	20.9	780

## BIOVENT WELL SAMPLE RESULTS



## 2012 Respiration Testing Results

Monitoring Point	Baseline Oxygen (%)	Oxygen Utilization (%/day)	Biodegradation Rate (mg/kg-day)
199-N-167	20.9	0.20	-0.07
199-N-169	20.9	0.37	-0.13
199-N-171	20.9	13.07	-4.72
199-N-172	20.9	0.17	-0.07

### Remediation Time Frame

$$\frac{4400 \text{ mg/kg}}{4.72 \text{ mg/kg-day}} = 932 \text{ days (2.6 yrs)}$$





# Attachment 11

UMM B/C SCHEDULE

Activity ID	Activity Name	TPA	% Cmpl	RD	Start	Finish	Gantt Chart											
							J	J	A	S	O	N	D	J	J	A	S	O
<b>100-C-7 Waste Site Remediation</b>																		
<b>Backfill</b>																		
BC502C41	100-C-7:1 Post C-7 Work Remaining Material	Y	0%	66	01-Aug-13*	26-Nov-13												
<b>Closeout Sampling &amp; Docs</b>																		
BC502D131	Prepare Closure Document for 100-C-7:1 West Sidewall / Stockpile Areas	Y	82%	41	06-Mar-13 A	20-Aug-13												
BC524G76	RL/Regulator Review Draft A Closure Document for 100-C-7:1 West Sidewall	Y	50%	15	22-May-13 A	03-Jul-13												
BC524G86	RL/Regulator Sign Rev. 0 Closure Document for 100-C-7:1 West Sidewall	Y	0%	4	05-Aug-13	08-Aug-13												
<b>600-253 Waste Site (Pit 24)</b>																		
<b>Backfill</b>																		
BC508C	600-253 (Pit 24) Recontouring	N	0%	10	02-Dec-13*	17-Dec-13												

④

# Attachment 12

300 Area Closure Project Status  
June 13, 2013  
100/300 Area Combined Unit Manager Meeting

**Ongoing Activities**

- 309 Reactor – Core drilling, lower reactor space interference removal, and shoring installation ongoing,
- 340 Complex:
  - Vault plume soils have been characterized and dose profiled.
  - Necessary revisions to Nuclear Safety and Off-Site dose calculation documentation have been initiated.
  - Finalizing soil retrieval and shoring/lifting beam installation plans.
- 324 – Preparing to load test the B Cell crane rails, continue min-safe operations.

**Demolition & Remediation Preparation Activities**

- 326 Building – Hazardous material and asbestos nearing completion, hot-cell and glove-box stabilization completed. The building is nearing demolition ready.
- 3701D – Below-grade demolition temporarily suspended for active bird nest.
- 331C – Above-grade and below-grade demolition completed.
- 331D – Above-grade and below-grade demolition completed.
- 331-G – Above-grade demolition initiated.
- 331-H – Above-grade demolition initiated.
- Field Remediation – Field work associated with final phase of remediation south of Apple suspended to September, remediation design ongoing.
- 3730 – Two of three hotcells lifted, packaged, and transported for ERDF for disposal.
- 3760 – Asbestos abatement and hazardous material removal ongoing.

**60-Day Project Look Ahead**

- Resume preparations for 340 Vault lift and transport to ERDF.
- Continue 309 PRTR reactor removal preparations.
- Initiate demolition of the 326 Building.
- Complete demolition of 331G, and 331H
- Initiate demolition of 3760.
- Begin mobilizing for south Apple waste sites remediation.

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# Attachment 13

## ESH&QA Mission Completion Project

June 13, 2013

### **Long-Term Stewardship**

- Continued drafting of the Segment 5/400 Area Interim Remedial Action Report.
- The 100-FR-1 Operable Unit Interim Remedial Action Report, Rev. 0 was transmitted to RL on 6/12/13.

### **100-K Shoreline Characterization**

- The *Cultural Resource Review for the Nature and Extent Characterization at Waste Sites 100-K-64 and 100-K-111 in the 100-K Area of the Hanford Site, Benton County, Washington* (HCRC#2013-100-008) was issued on 6/11/13. A field mockup exercise is scheduled for 6/25/13 and the field work is scheduled to begin 7/1/13.

### **Document Review Look-Ahead**

- None

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