

ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Approval of Excavation Greater Than 3 Feet Below Grade to Breach Dams A-3, A-4, B-5, C-2 and the Present Landfill Dam.

Contact Record Approval Date: April 15, 2010

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); Linda Kaiser, S.M. Stoller; John Boylan, S.M. Stoller; George Squibb, S.M. Stoller; Rick DiSalvo, S.M. Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE)

Introduction: Breaching of Dams A-1 and A-2 (located in North Walnut Creek) and Dams B-1, B-2, B-3, and B-4 (located in South Walnut Creek) was completed in 2009. This action was the preferred alternative in the DOE October 2004 *Pond and Land Reconfiguration Environmental Assessment, Comment Response and Finding of No Significant Impact* (DOE/EA-1492). The dam breach work included soil excavation more than 3 feet below the surface and removal of sentinel well TH046992 at Dam B-3 that required approval under the Rocky Flats Legacy Management Agreement (RFLMA), because these actions are otherwise prohibited by certain RFLMA institutional controls (ICs). The approval for the soil excavation and removal of the monitoring well location is documented in Contact Records 2008-02 and 2008-09.

The five remaining Rocky Flats Site dams, Dams A-3 and A-4 (in North Walnut Creek), Dam B-5 (in South Walnut Creek), Dam C-2 (at the end of the South Interceptor Ditch north of Woman Creek), and the Present Landfill (PLF) Dam (in No Name Gulch) retain surface water in retention ponds that are not necessary to site operations. DOE proposes to breach these remaining dams. This action would reduce or eliminate the out-of-priority retention of surface water and return the Rocky Flats surface water flow approximately to the original conditions. Returning flows to a more natural condition will provide ecological benefits by improving riparian habitat and promoting wetlands. In addition, this will reduce or eliminate the inspection and reporting costs associated with meeting dam safety requirements, operating and maintaining the dams, and determining out-of-priority storage and evaporative depletions.

DOE is preparing the *Rocky Flats Surface Water Configuration Environmental Assessment* (EA) to evaluate impacts related to breaching the remaining dams. DOE intends to release the draft EA for public review and comment in spring 2010 and issue the final EA in summer 2010. Figures 1 and 2 show the locations of the remaining ponds and dams and the approximate footprints of the construction areas where excavations would occur based on the preliminary design being prepared for the EA. Final design and construction work will be performed after DOE issues the final EA.

A portion of each dam embankment will be removed to form a channel in the dam and create a flow-through configuration. The designs for the previous dam breach construction included stop log structures in the notch to retain a shallow pool level upstream of the stop logs. The shallow pool level can be adjusted by adjusting the height of the stop logs (by removing or adding stop logs) in the structure. The preliminary design for the breach of the remaining dams does not include stop log

structures; channel invert and grading elevations are designed to result in no retained water. The final design will be informed by the hydrological modeling being conducted as part of the EA.

The proposed excavation work will exceed the 3-foot depth limit prohibited by ICs (RFLMA, Attachment 2, Table 4, Control 2) and thus requires pre-approved procedures. On January 18, 2010, DOE and CDPHE staff consulted regarding the soil excavation.

The objective of IC 2 regarding excavations with a depth that exceeds 3 feet is to maintain the current depth to subsurface contamination or contaminated structures. This IC also results in achieving compliance with the CDPHE risk management policy of ensuring that residual risks to the site user are at or below 1×10^{-6} excess lifetime cancer risk. As discussed below, the proposed work achieves the risk management policy goal.

The excavated soils will be used as fill in accordance with the engineering design to raise the level of a portion of the pond bottoms, partially fill the spillways adjacent to each dam, and reclaim disturbed areas. It is not anticipated that any imported fill will be needed for these purposes. Some excavated soils from within the notched area could also be used to provide materials for reclaiming roads adjacent to the dams and for revegetation and minor recontouring in the Central Operable Unit (COU) to maintain and improve erosion control.

Erosion controls for the excavation, construction, and fill activities will be employed in accordance with the *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, DOE-LM/1497-2007, July 2007.

CDPHE has requested that the following information be included in Contact Records for soil excavation related to IC 2 that will not return soil to the preexisting grade:

1. *Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption will not be violated (or state that there are none if that is the case).*

There are no subsurface building or tunnel structures near the dams. However, outlet works, pipes, valves, drop structures, spillways, and miscellaneous components are integral to the dam structures. Unneeded surface components or structures will be removed to appropriate depth below the finished grade, and openings in pipes, manholes, and drop structures that are not removed will be stabilized in accordance with the engineering design to meet the Colorado State Engineer's requirements for the breached dam structures. Process knowledge (i.e., familiarity based on past experience at the site) regarding the characteristics for each removed item will be confirmed by visual inspection. If process knowledge cannot be confirmed by visual inspection, additional characterization will be performed to determine proper disposal. It is expected that removed items will be disposed of off site as solid waste or recycled, as appropriate. However, routine radiological field screening of these waste items will also be performed to determine if off-site disposal under DOE directives and policy as radioactive waste is required. Items removed for disposal will be staged in a manner to prevent run-on and runoff of precipitation and surface water pending off-site disposal.

2. *Provide information about any former Individual Hazardous Substance Sites or Potential Areas of Concern (IHSSs/PACs) or other known soil or groundwater contamination in the vicinity (or state that there is no known contamination).*

The dams are associated with the following former IHSSs/PACs:

IHSS 142.3 - Pond A-3
IHSS 142.4 - Pond A-4
IHSS 142.9 - Pond B-5
IHSS 142.11- Pond C-2
IHSS 114 - PLF Pond

More detailed information on these IHSSs/PACs and the disposition of these areas is available in the *RCRA Facility Investigation—Remedial Investigation/Corrective Measures Study—Feasibility Study Report for the Rocky Flats Environmental Technology Site (RI/FS)*, Appendix B, “FY2005 Final Historical Release Report.”

A Rocky Flats Cleanup Agreement (RFCA) accelerated action resulted in removal of sediment from the PLF Pond as part of the PLF closure in 2005. The removed sediment was placed in the PLF prior to construction of the PLF closure cover. Confirmation sampling after the sediment removal demonstrated that the objectives of the removal were met, and the remaining residual contamination levels were well below the RFCA wildlife refuge worker soil action levels. This accelerated action and the confirmation sampling results are documented in the September 2005 *Final Closeout Report for IHSS Group 000-5 Present landfill (IHSS-114)*.

Characterization results for the investigation of ponds A-3, A-4, B-5, and C-2 are presented in the October 2005 *Data Summary Report for IHSS Group NE-1 (DSR)*.

Based on the DSR characterization information for the ponds in question, all surface and subsurface constituent concentrations or activities were less than the RFCA wildlife refuge worker soil action levels, and no RFCA accelerated action was required.

As part of the RI/FS, Exposure Units (EUs) were evaluated and documented in the RI/FS Appendix A, “Comprehensive Risk Assessment” (CRA). Ponds A-3, A-4, and B-5 are located in the Upper Walnut Drainage EU. Pond C-2 is located in the Lower Woman Drainage EU. The PLF pond is located in the No Name Gulch Drainage EU.

The results of the CRA for the Upper Walnut Drainage EU are in Volume 7 of Appendix A. Benzo(a)pyrene was identified as the only contaminant of concern (COC) for surface soil/surface sediment in this EU. No COCs were identified for subsurface soil. Benzo(a)pyrene was not directly associated with any Rocky Flats Site historical source areas but could be associated with vehicle traffic, paving, or pavement degradation prior to closure. The calculated risk to the wildlife refuge worker for the surface and subsurface exposure scenario for benzo(a)pyrene in the CRA is 1×10^{-6} .

The results of the CRA for the No Name Gulch Drainage EU are in Volume 6 of Appendix A. Vanadium was identified as the only COC for surface soil in this EU. The noncancer hazard index (HI) estimate is less than 1, indicating that adverse noncancer health effects are unlikely for the wildlife refuge worker exposure scenario.

The results of the CRA for the Lower Woman Drainage EU are in Volume 11 of Appendix A. No COCs were identified for this EU. Thus, risks are expected to be similar to those associated with background conditions.

3. Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

When completed, the new surface elevations will be consistent with the final design drawings for the regrading work for the dams and the new POCs. Final elevations will be surveyed, and the resulting data will be used to update the COU topographic maps.

Closeout of the Contact Record: This Contact Record will be closed out when the as-built drawings are completed for the construction work, and the COU topographic maps have been updated with the final elevations.

Resolution: Carl Spreng, CDPHE, approved the soil excavation for the proposed dam breach work.

Contact Record Prepared by: Rick DiSalvo

Distribution:

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Rocky Flats Contact Record File

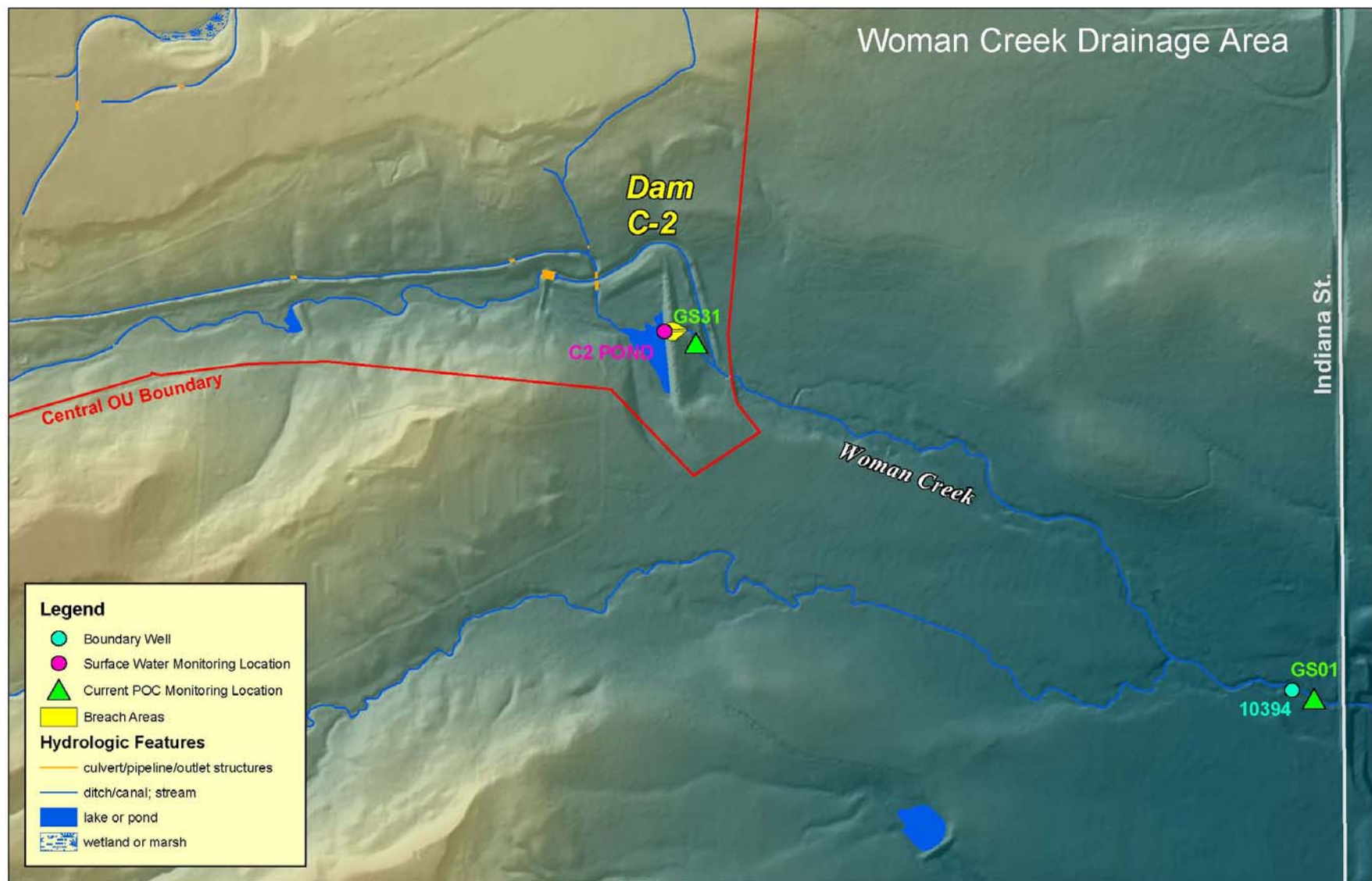


Figure 1. Monitoring and Dam Breach Locations—Woman Creek Drainage Area

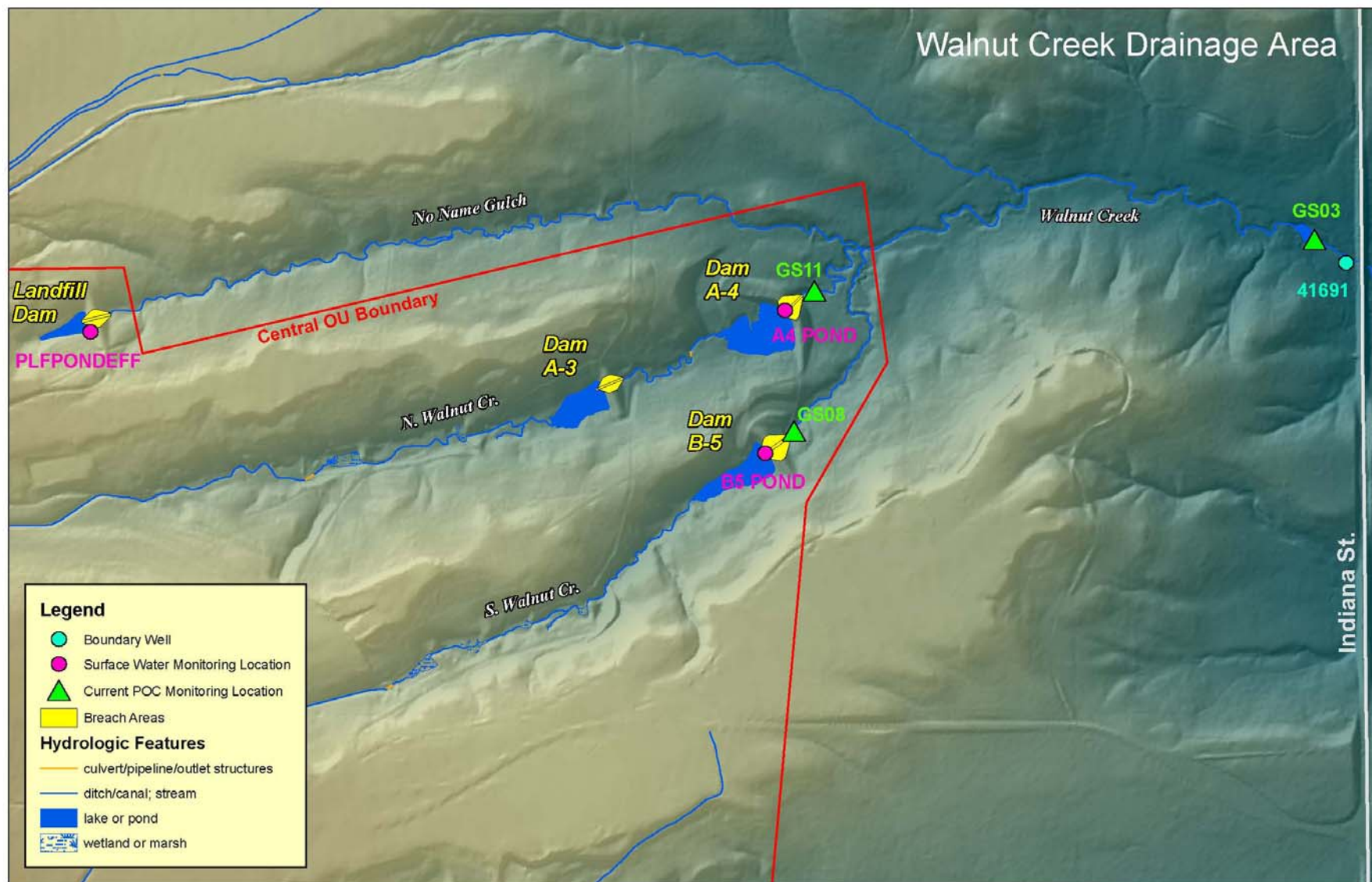


Figure 2. Monitoring and Dam Breach Location—Walnut Creek Drainage Area