

Bowman's Pond IHSS Briefing Summary

Prepared by Rik Getty

Briefing Summary Revision Number

Revision 0 (5/05)

IHSS Group Number

700-11

IHSS/PAC Number

PAC 700-1108, Bowman's Pond (aka "Duck Pond")

IHSS 139.1(N)(a), Steam Condensate Tanks

Approximate Location

Northing: 751,250

Easting: 2,084,100

Approximate acreage: less than 0.5 acres

Location Relationship to other Site areas: IHSS Group 700-1 is located about 100 feet north of the former Building 774 and northeast of former Building 771.

Historical Information

(Note: detailed historical information about IHSS Group 700-11 can be found in References 1 and 2)

Bowman's Pond and the Steam Condensate Tanks were located north of Building 774.

Bowman's pond consisted of a small, man-made depression approximately 3 to 4 feet deep with an areal extent of approximately 28 by 33 feet. Bowman's Pond was constructed to retain water discharged from building foundation drains and storm drains from the 700 Area. The Steam Condensate Tanks consisted of two steel aboveground storage tanks that received steam condensate from an evaporative waste concentration system formerly used in Building 774.

Only the concrete slab that supported the former tanks remained in place prior to remedial actions. Drainage from 700-11 emptied into North Walnut Creek. Bowman's Pond and the Steam Condensate Tanks were identified in 1992 (Reference 1) as areas which might require remedial actions based on potential soil and sediment contamination.

Recently an allegation by a former site worker has been published (see Reference 3) which describes an alleged practice of dumping radioactive contaminated liquid wastes into a pond adjacent to Building 771. This alleged practice was termed "feeding the ducks" and the pond was named the "Duck Pond". The account by the former Site worker indicates that this area has not been identified by the Site as a location of hidden radioactive contaminated waste. DOE, CDPHE, and EPA have concluded that Duck Pond is undoubtedly Bowman's Pond since there are no other ponds located in the vicinity of Buildings 771 and 774.

Pre-remediation Characterization Data

The primary Contaminant of Concern (COC) based on pre-remediation characterization data for 700-11 was polychlorinated biphenyls (PCBs). Other COCs were semi-volatile organic compounds (SVOCs) and arsenic. Pre-characterization data of 700-11 showed Pu and Am

concentrations to be below wildlife worker action levels (WRW ALs) in the surface soils, sediments, and subsurface soils of 700-11. The PCBs of concern were primarily Aroclor-1254 which exceeded WRW ALs in some areas of 700-11. Historical knowledge indicated that drums of PCBs were stored outside in 700-11 and leaks occurred. The SVOCs which exceeded WRW ALs were primarily pyrenes, anthracenes, and other asphaltic compounds probably originating from the asphalt paved areas near 700-11. Arsenic is a naturally occurring element found throughout the site, not just at 700-11.

Pre-remediation characterization results for Pu and Am indicated only small concentrations in the sediments and soils surrounding Bowman's Pond. The levels were typically less than 5 pCi/g which is well below the WRW ALs for Pu (50 pCi/g) and Am (76 pCi/g). Fortunately, if dumping of radioactive liquid wastes into Bowman's Pond occurred as alleged in Reference 3, the Pu and Am concentrations were very low. In fact the Pu and Am detected in the Bowman's Pond area could also have come from the building foundation drains and storm drains in the 700 Area. Regardless of the source of the Pu and Am, there was not enough contamination present in soils and sediments of Bowman's Pond to trigger a remedial action based on WRW ALs for Pu and Am.

Remedial Actions Taken

Remedial actions were conducted at 700-11 between May and November 2004. About 376 cubic yards of contaminated soils and sediment were removed from 700-11. In addition, the concrete slab and retaining wall associated with the former steam condensate tanks was removed and recycled as concrete rubble for backfill at other site locations outside of the 700-11 area. All excavated areas in 700-11 were backfilled with clean fill, regraded, and reseeded.

Post-remediation Remaining Contamination

After the completion of remedial actions, some COCs remain in 700-11, all below WRW ALs. Examples of remaining COCs are PCBs, SVOCs, lead, arsenic, uranium isotopes, plutonium (<2 pCi/g, well below the WRW AL of 50 pCi/g), and americium (<2 pCi/g, well below the WRW AL of 76 pCi/g).

Potential Exposure Pathways to Remaining Contamination

Erosion and groundwater contamination are the two primary pathways for exposure to remaining contamination. The location of 700-11 is not prone to erosion problems. Surface flows from 700-11 are being directed to Functional Channel 3 as part of the final site configuration. Groundwater monitoring wells located upgradient and downgradient from 700-11 have not shown any evidence of PCBs. Migration of PCBs to groundwater and eventually to surface water is not likely.

Long-term Stewardship Controls

Although potential exposure to remaining contamination is considered to be low in 700-11, there will still be both groundwater and surface water monitoring locations which will include any potential contamination sources from 700-11. These monitoring locations will monitor other former IHSS locations in the 771 complex vicinity that are either upgradient from 700-11 or encircle 700-11.

Document references

1. 1992 Historical Release Report (document path, CERCLA AR #SW-A-000378)
2. Closeout Report for IHSS Group 700-11, February 2005, (document path, EDDIE database/document archive/Environmental Restoration/2005)
3. The Ambushed Grand Jury, *How the Justice Department Covered up Government Nuclear Crimes and How We Caught Them Red-Handed*, Wes McKinley and Caron Balkany (document path, website, www.ambushedgrandjury.com)