Present Landfill Trenches IHSS Briefing Summary

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Briefing Summary Revision Number
Revision 0 (6/05)

IHSS Group Number
Northeast Buffer Zone

IHSS/PAC Number
166.1, Present Landfill Trench A
166.2, Present Landfill Trench B
166.3, Present Landfill Trench C

Approximate Location
Northing: 752,000
Easting: 2,084,000
Approximate acreage: trenches cover several acres
Location Relationship to other Site areas: The trenches are located on the south side of the Present Landfill in an area with fairly flat topography.

Historical Information
(for detailed historical information on the Present Landfill Trenches see References 1 and 2). Conflicting historical information has been found regarding the reasons for the existence of these trenches. The most probable explanation is that the trenches were used to dispose of both sludge and liquid wastes from the Site's sanitary wastewater treatment plant (Building 995). It was standard practice to dispose of Building 995 wastewater treatment sludge in trenches on the east side of the Site (East Trenches) in the 1950s and 1960s. However, if the East Trenches were used for sludge disposal, why were the Present Landfill trenches constructed for the same purpose on the north side of the Site? Based on an exhaustive review by the Site, including many interviews (Reference 1), the dates of trench construction and exact usage remain unknown. According to the Site the trenches appear to have been constructed sometime between 1955 and 1964 based on photographic evidence of the location. These trenches would therefore have been constructed prior to the installation of the Present Landfill in 1968.

Pre-remediation Characterization Data
Soil sampling at these trenches in the late 1970s and early 1980s did not reveal any radioactive material. During the early 1990s, 26 soil borings were drilled to a depth of five feet below the bottom of each trench (8 in Trench A, 7 in Trench B, and 11 in Trench C). Soil samples were analyzed for VOCs, metals, and radionuclides. Small concentrations of radionuclides were detected above background levels in soil samples taken from 0 to 12 feet in the trenches. The maximum concentration of Pu 239/230 was 0.0855 pCi/g, Am 241 was 0.0229 pCi/g, and U 235 was 0.13 pCi/g. Although these results were above the Site background, the results were all well below Wildlife Worker Action Levels (WRW ALs). Trace amounts of VOCs were also detected above background but below WRW ALs. The VOCs included acetone, benzene, 2-butanone, chloroform, 4-methy-2-pentanone, methylene chloride, styrene, trichloroethene, and toluene.

These VOCs were common industrial solvents used at the Site. In addition to the radionuclides and VOCs, inorganic material containing barium, chromium, and strontium were detected in soil samples from the trenches.

Remedial Actions Taken
Based on the analytical results from the soil borings into the three trenches, the Site requested a No Further Action (NFA) status on the trenches in a request to EPA and CDPHE in 1996 (Reference 2). The regulatory agencies granted this status in 2002 (Reference 3) and therefore no remedial actions were performed on the trenches.

Post-remediation Remaining Contamination
Since no remedial actions were performed on the trenches, they still contain the disposed wastes that were buried in them. Therefore the remaining contamination is a mixture of radionuclides, VOCs, and inorganics.

Potential Exposure Pathways to Remaining Contamination
The major exposure pathway to the remaining contamination in the trenches is by exposure to contaminated groundwater. Due to the relatively flat topography of the trench area, erosion is not expected to be a significant contributor to an exposure pathway to the remaining contamination.

Long-term Stewardship Controls
Groundwater monitoring of the area that contains the trenches is somewhat complicated by the presence of the remaining contamination in the Present Landfill and the PU&D Yard plume. Due to potential contamination to groundwater from all three sources, groundwater monitoring will continue into the post-closure future for the area.

Notes
None at this time.

Document references

1. 1992 Historical Release Report (document path, CERCLA AR #SW-A-000378)
2. 1996 Annual Historical Release Report Update (document path, CERCLA AR #SW-A-002448)
3. 2002 Annual Historical Release Report Update (document path, CERCLA AR #SW-A-004672)