

Update: Freon-11 Groundwater Contamination in the Building 452 Area

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Freon-11 Release at B452

(Trichlorofluoromethane)

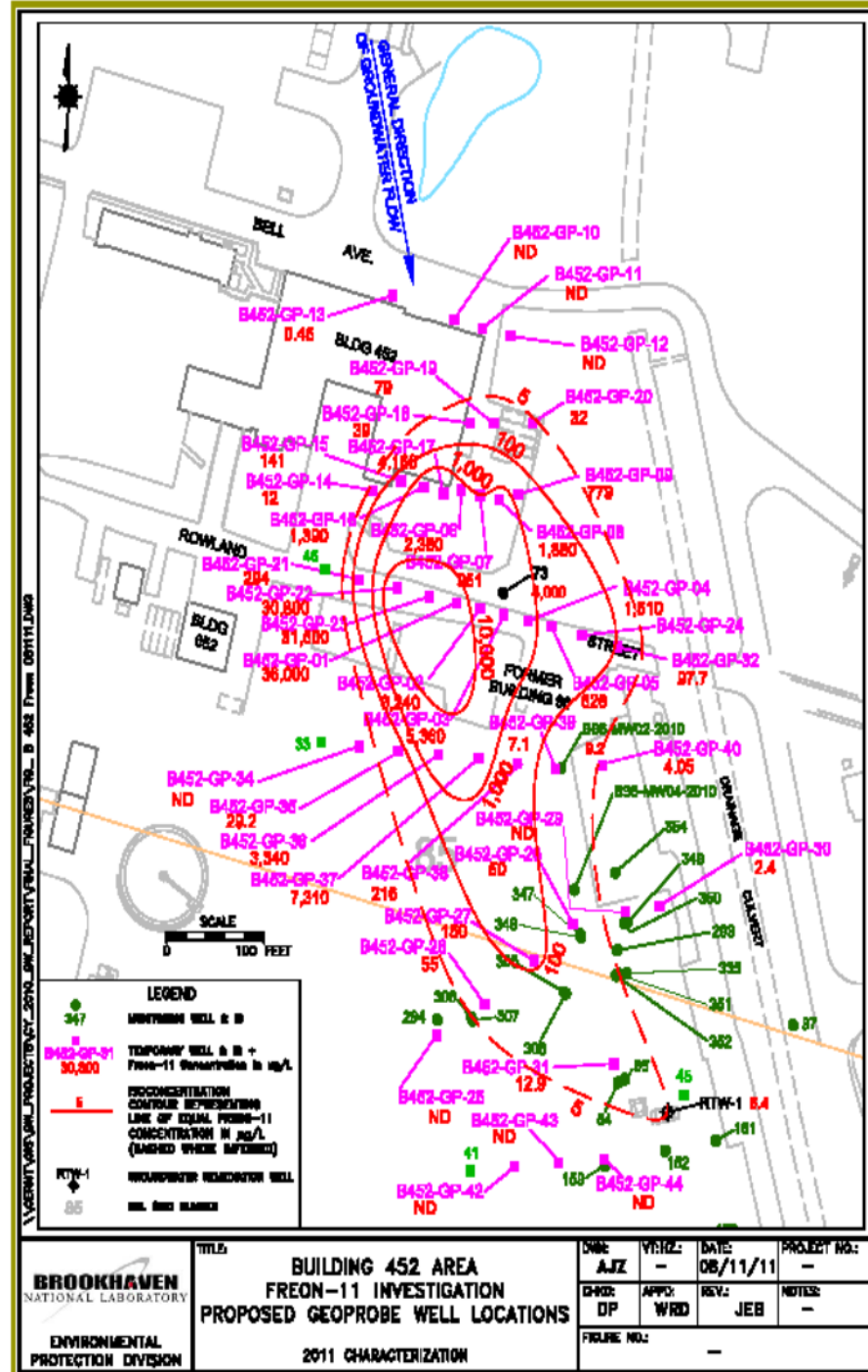
NYS Standard = 5 ug/L

Extent of contamination

- Installed 42 temporary wells.
- Analyzed 350 samples.
- Maximum concentration = 36,000 ug/L.
- Plume ~300 feet wide and ~600 feet long.
- Near Building 452, Freon-11 extends from the water table to 20 feet below. Slightly deeper further to the south.

Source of contamination

- Exact location or manner of the release has not been identified.
- Could have been several undocumented spills – 2 to 3 years ago.
- Estimated amount of Freon-11 in groundwater is 15 to 25 gallons.

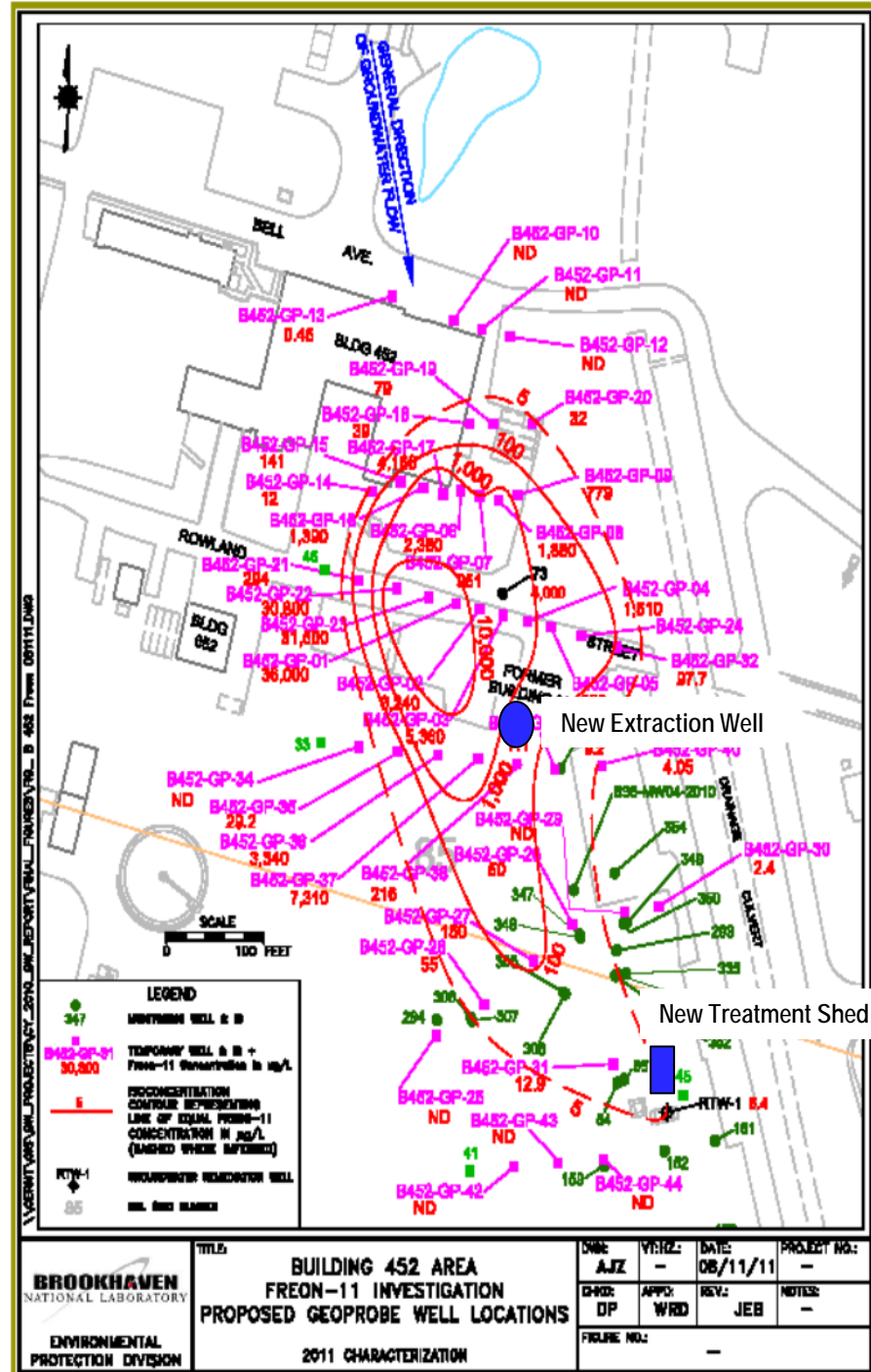


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Next Steps

- Groundwater treatment
 - BNL groundwater model simulations indicate one new extraction well is needed.
 - Existing Building 96 well RTW-1 will help capture part of the plume.
- Install 12 new monitoring wells.
- Design groundwater treatment system – will use air stripping system installed in new shed
- Air emissions assessment indicates that emissions will meet the regulatory limit.
- Obtain equivalency permit for discharge of treated water.
- Characterize source area soils
- Regulatory approach
 - Working with agencies to determine appropriate framework for conducting and documenting planned remedial actions.

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Corrective Actions

■ Storage

- Moved Freon-11 remaining in storage out of Building 452 trailer into the Chilled Water Plant.
 - Freon-11 is used at this facility. Eliminates a transportation step.
 - Building is secure, has concrete floor, and is manned 24 hours/day
- Remaining refrigerant gasses will be moved into a designed chemical storage container.
 - Sealed floors with secondary containment. Proper ventilation. Secure, and containers stored in accordance with OSHA requirements.

■ Inventory Management

- Team has been formed to look into improving the management of refrigerant gasses from time of delivery to their use in equipment. Goal is to identify significant loss of refrigerants while in storage or transport.

■ Training

- Meet with AC mechanics to increase their understanding of the consequences that refrigerant releases may have on the environment.
- Emphasize their responsibilities to make required notifications in case of a spill.