Progress Update Freon-11 Groundwater Treatment System and g-2 Tritium Plume Monitoring

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BNL Community Advisory Council January 12, 2012



Installation of Wells

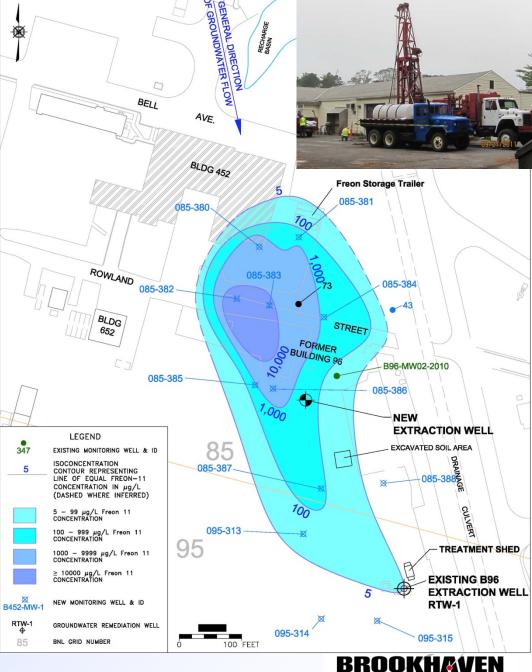
Monitoring wells

- Installed 12 new wells
- Will also use 2 existing wells
- Allow for long term monitoring of the source area and plume
- Quarterly monitoring schedule
- First samples were collected in November 2011

Extraction well

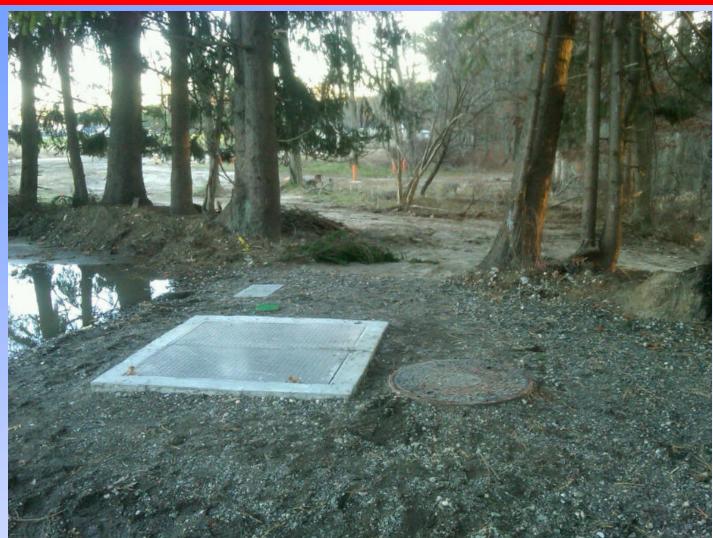
 New extraction well EW-18 was installed to capture high

EXISTING MONITORING WELL & ID ISOCONCENTRATION 085-387 CONTOUR REPRESENTING LINE OF EQUAL FREON-11 concentration portion of plume CONCENTRATION IN µg/L (DASHED WHERE INFERRED) 5 - 99 μg/L Freon 11 CONCENTRATION Existing Building 96 extraction well 095-313 100 - 999 µg/L Freon 11 CONCENTRATION RTW-1 will capture lower 1000 - 9999 µg/L Freon 11 CONCENTRATION concentration part of the plume ≥ 10000 µg/L Freon 11 CONCENTRATION NEW MONITORING WELL & ID B452-MW-RTW-1 GROUNDWATER REMEDIATION WELL RNI GRID NUMBER **Brookhaven Science Associates** U.S. Department of Energy



NATIONAL LABORATORY

Installation of New Extraction Well Vault



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Installation of Water, Electric and Communications Lines Between the Extraction Well and Treatment System Shed







Connection of Water, Electric and Communications Lines to the Treatment System Shed



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Installation of Air Stripper Tray in Treatment System Shed



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Next steps

<u>January</u>

- Complete construction of treatment system
- Submit water and air discharge equivalency permit applications to the NYSDEC
- Prepare draft Explanation of Significant Differences (ESD)

February - April

- Begin system start-up testing
- Begin full time operation of treatment system
- Continue progress updates to CAC and Lab Community



g-2 Tritium Plume

Record of Decision (2007)

- Continued source control and groundwater monitoring
- Two contingency triggers:
 - If concentrations >1,000,000 pCi/L anywhere in plume
 - If concentrations >20,000 pCi/L south of Brookhaven Avenue

Monitoring Results (2007-2011)

- Maximum concentration was 186,000 pCi/L near source area in January 2008
- Tritium up to 58,600 pCi/L detected south of Brookhaven Avenue in December 2011
- Proposed response to contingency trigger is additional monitoring south of Brookhaven Avenue.

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