

# Compliance Cleanup Program

- Compliance-related cleanup (CC) refers to the cleanup of contamination resulting from operations that have occurred since October 1986. - Not eligible for Defense Environmental Restoration Program clean-up funds.
- The principal goal of CC at Army installations is to perform appropriate, cost-effective cleanup to protect human health, safety, and the environment, and to sustain operational readiness and training.
- Army is currently transforming the CC program to be similar to the Restoration Program
  - Funding process
  - Public involvement

# Fort Detrick Compliance Cleanup Program

- Currently only one CC site:
  - Building 190 #6 Fuel Oil Underground Storage Tank (UST) Leaks
  - Potential to add one site: Building 940/950 Gasoline UST Leaks

# Bldg. 190 Site Investigation

- 1994 – Ten leaking 50,000 gallon # 6 Fuel Oil USTs were removed.
  - Over 13,000 gallons of oily water removed from the excavation
- 1995 – Two 10,000 gallon No. 6 Fuel Oil USTs replaced. Oil leaks were also observed.

# Bldg. 190 Recovery Well Interim Action

- 1999-2000 Recovery well & belt skimmer installed
- 2000-Present –Over 160 Gallons of No. 6 Fuel Oil recovered from ARW190-2
- Fuel Oil recycled at Boiler Plant



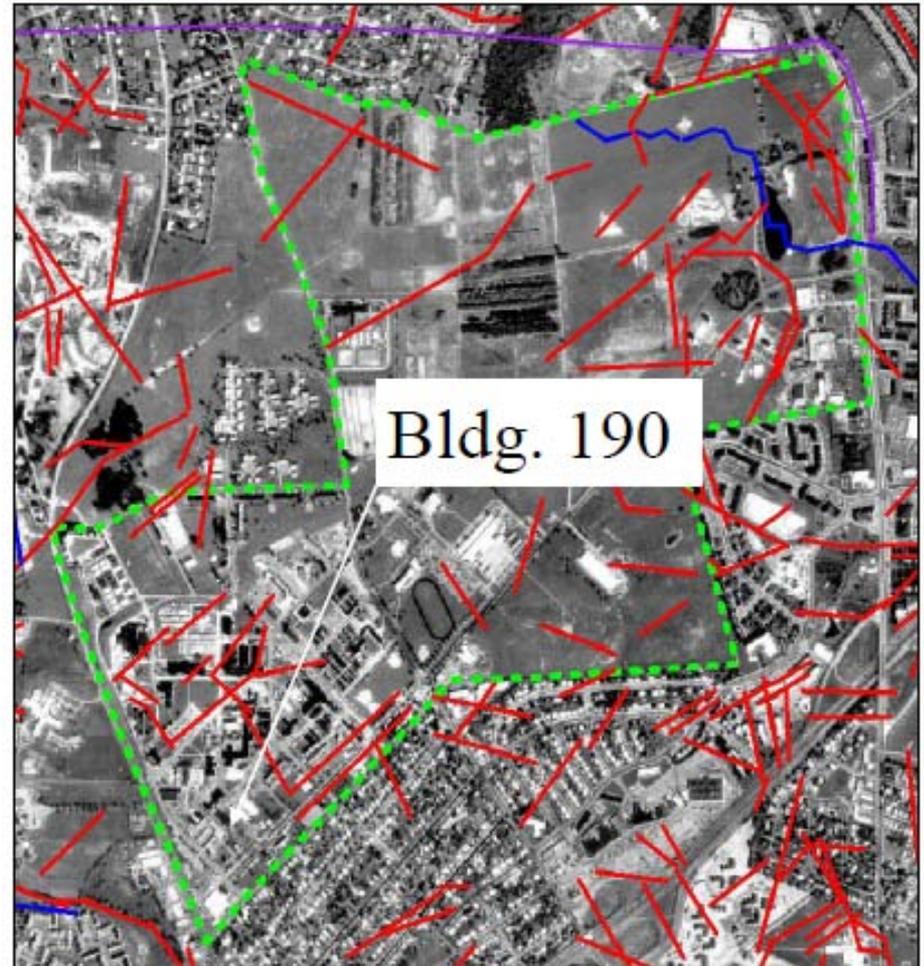
# Bldg. 190 Groundwater Study (GWS)

Begun in 2000. Objectives are:

- Determine pathways and potential offsite receptors
- Characterize nature and extent of contamination
- Assess local aquifer hydrogeology
- Collect design data to evaluate and select remedial alternatives

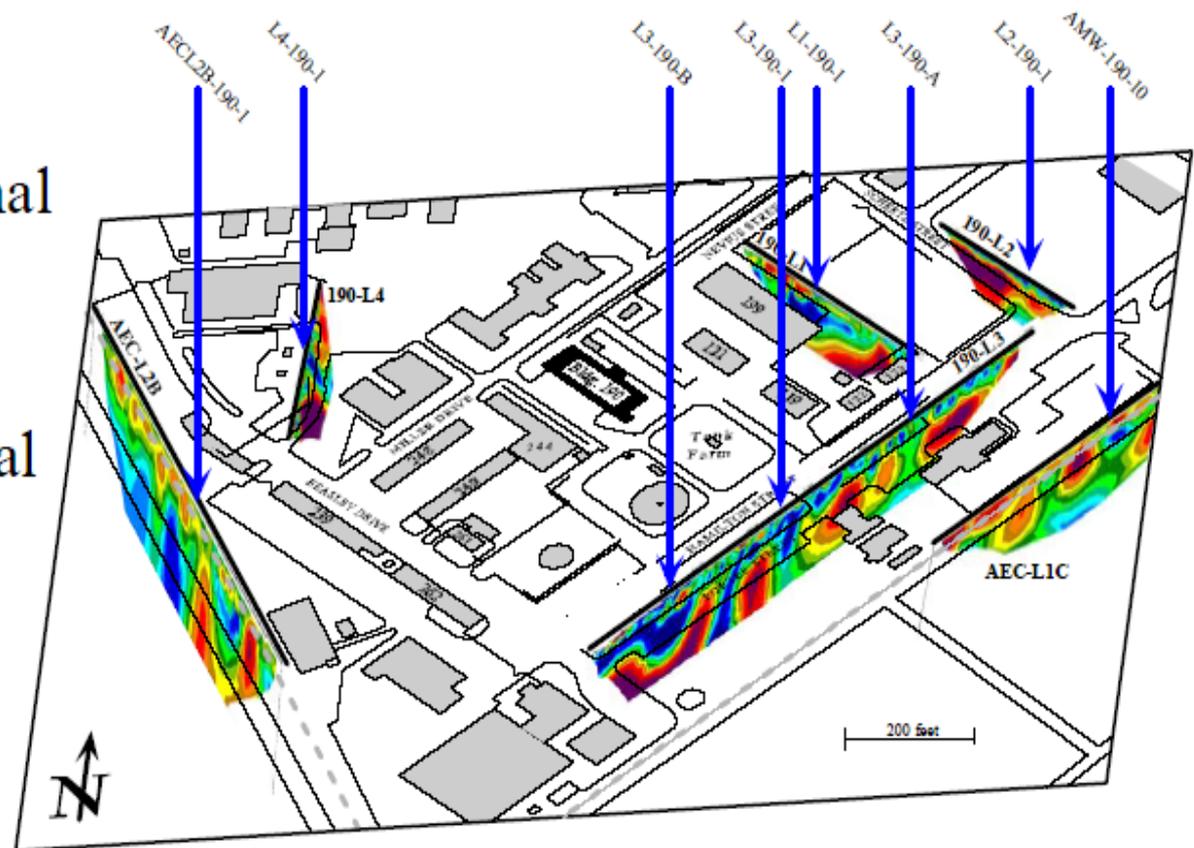
# GWS Phase 1 –Photogeology

- 2000–Completed by USACE Topographic Engineering Center
- Identified lineaments (potential fracture zones) which may be groundwater pathways



# GWS Phase 1 -Geophysics

- Completed by Argonne National Laboratory in 2001
- Identified several potential groundwater pathways from Bldg. 190

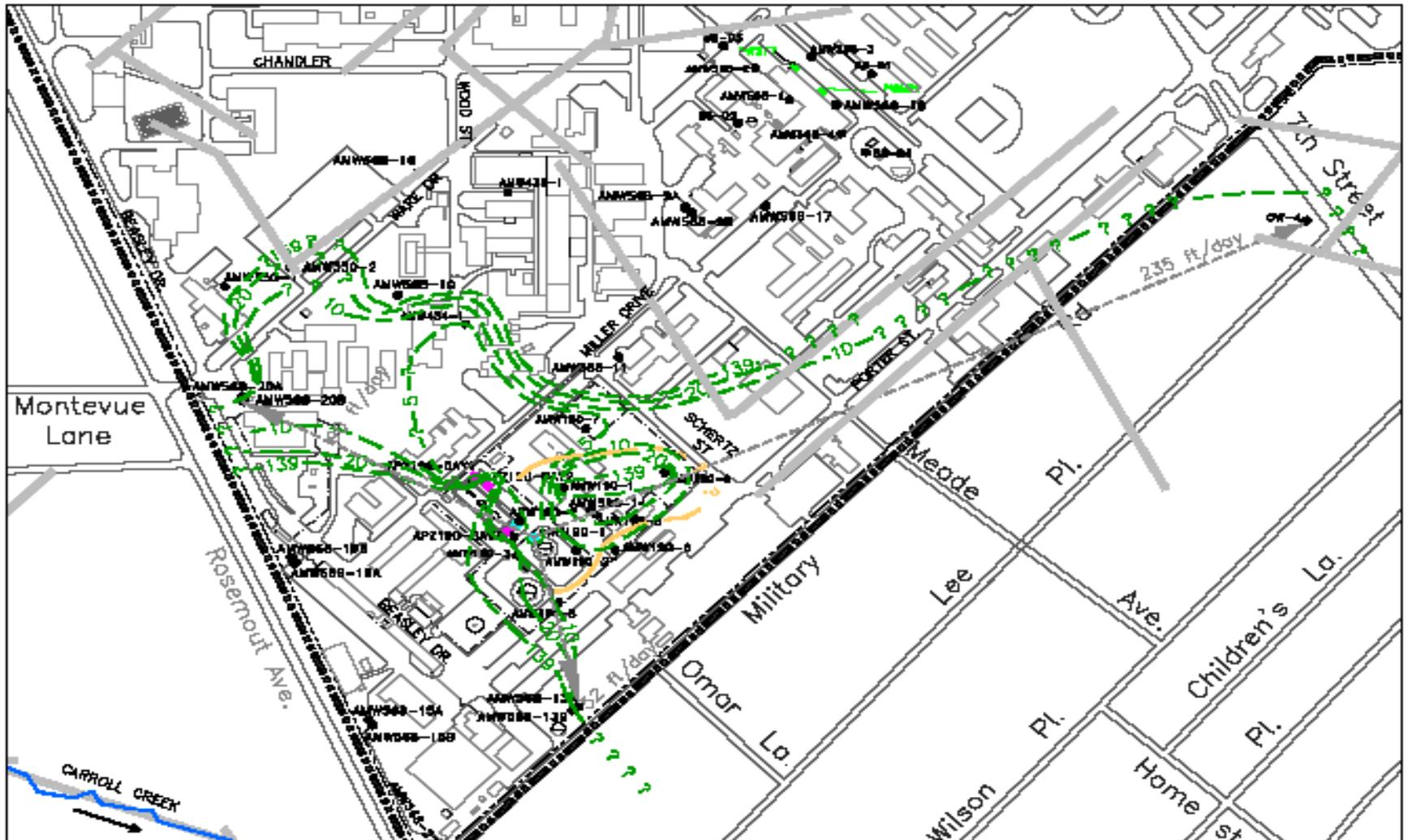


# GWS Phase 1 –Dye Tracing

- April 2001 –Dye introduced into ARW190-1
- Sept. 2001 -Sampling finished



# GWS Phase 1 –Dye Trace Results

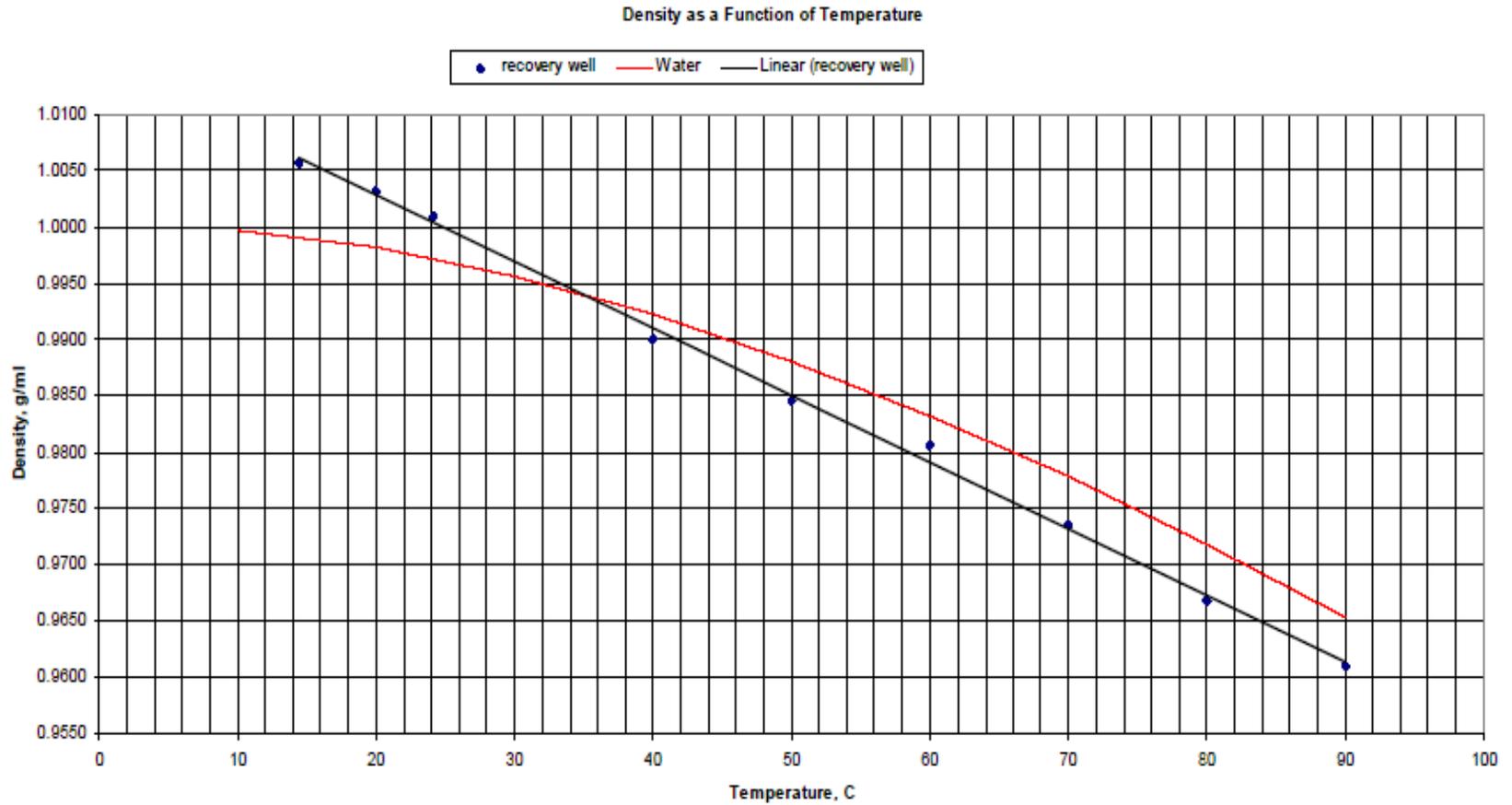




# Spring 2004 Free Product Physical and Chemical Testing

- Fuel Oil samples from Southern Day Tank and ARW190-2 tested for chemical and physical parameters.
  - Pb and Hg are present, along with BTEX
  - Temperature is the critical factor affecting viscosity and LNAPL-DNAPL state

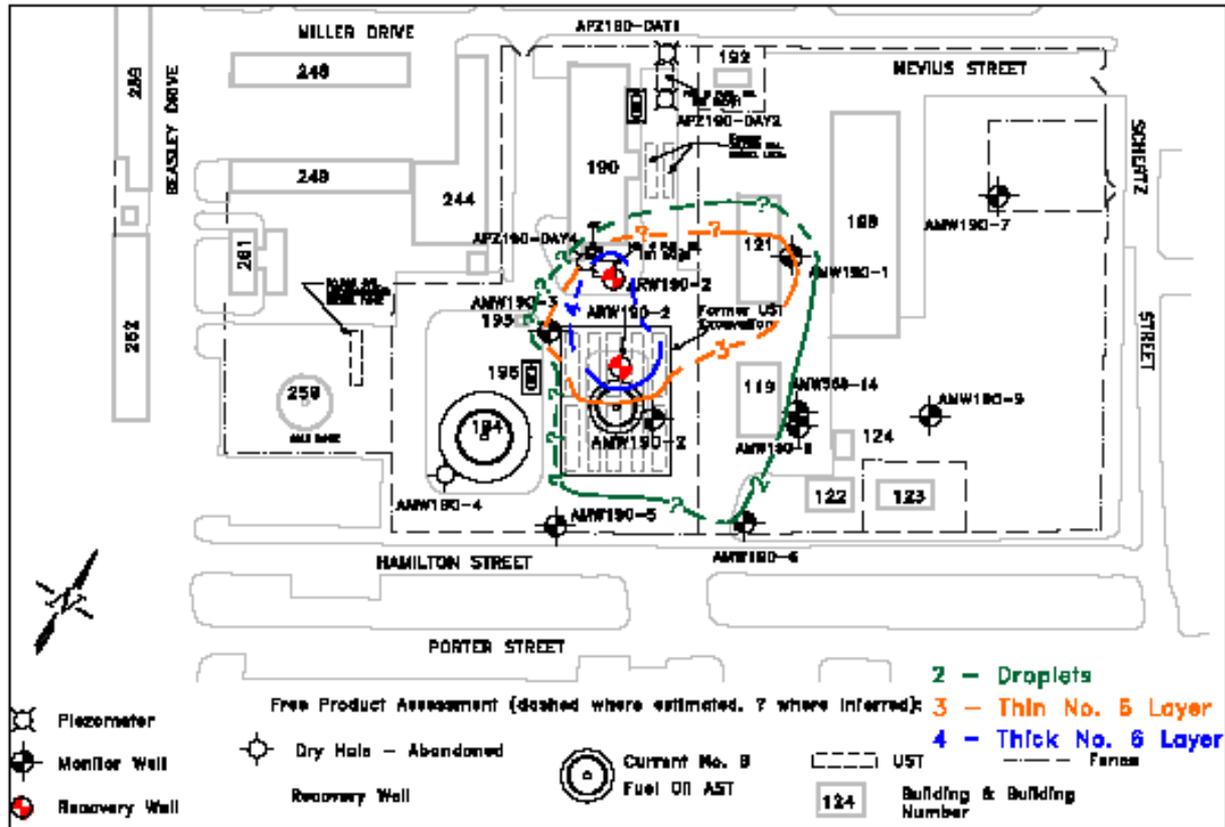
# ARW190-2 Free Product Density



# 2005 – Dissolved Phase Testing

- September 2005 tested 20 wells around free phase area and boundary wells
  - Volatile Organic Compounds
  - Semi-Volatile Compounds
  - Fuel components
- Preliminary data indicates there is not a dissolved phase problem.

# 2001-2005 LTM Summary



- Through July 2002, data show No. 6 extent heavily influenced by storm events & spring water levels
- Southern Day Tank is a residual source area

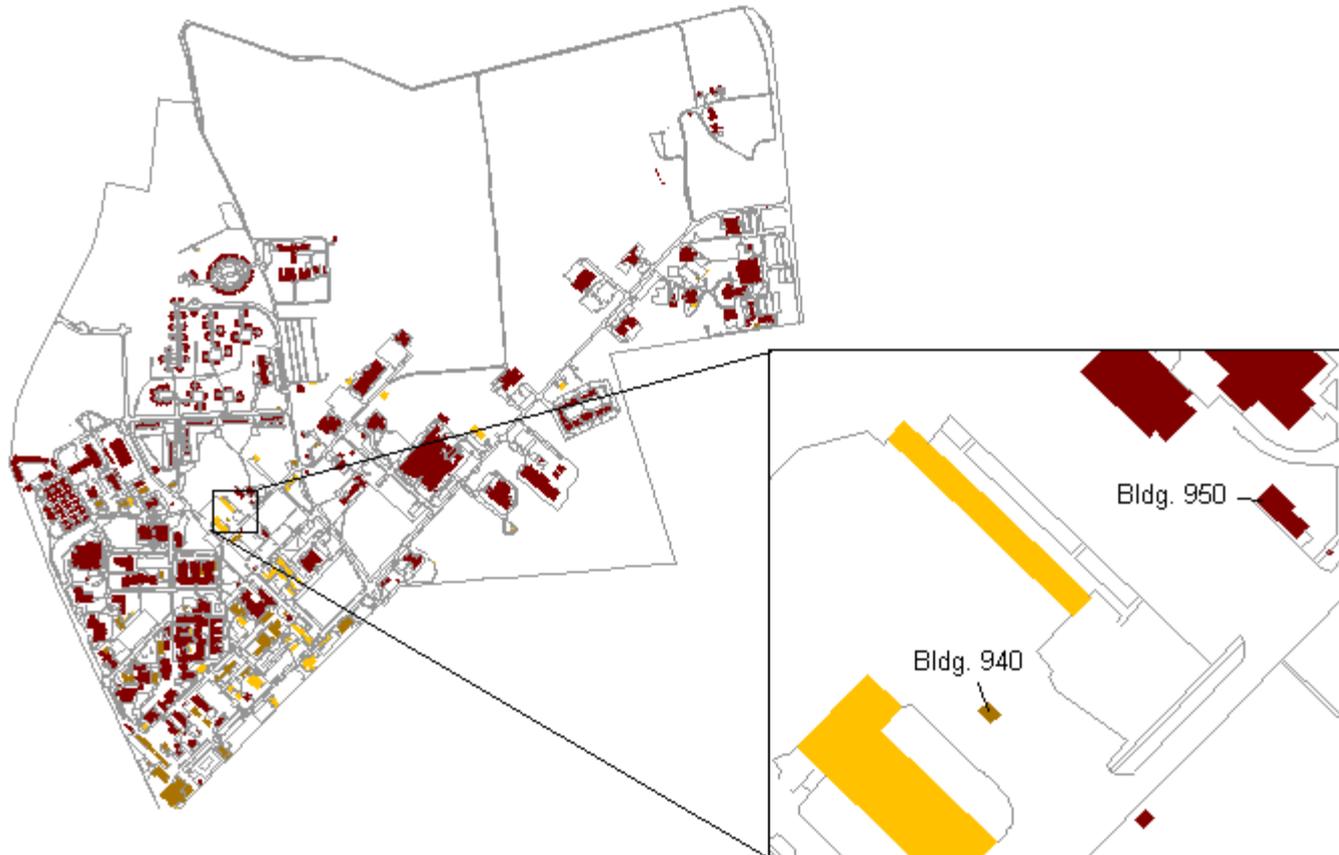
# MDE Oil Control Program – 7 Risk Factors

- Liquid Phase Hydrocarbons (LPH) Present? Yes
- Current and Future Groundwater Use? No
- Migration? No for LPH. Unlikely for dissolved phase.
- Human Exposure? No
- Env & Eco Exposure? No known nearby karst ecosystems
- Impact to Buried utilities? No
- Other Sensitive Receptors? No

# Where Do We Go From Here?

- Fort Detrick/USACE/CHPPM is preparing a Corrective Action Plan for submittal to MDE ~ December 2005
  - Plan will propose:
    - Future cleanup actions/activities
      - Includes additional skimmer installation
    - Long term monitoring of groundwater

# Buildings 940 and 950 UST Gasoline Leaks



# Buildings 940 and 950 History

- Buildings 940 and 950 were locations used for gasoline fueling operations.
- In November 1991, a leak was discovered at Building 940 UST.
  - The tank was removed in December.
  - Testing of monitoring wells confirmed gasoline contamination. Subsequent monitoring indicates that natural attenuation is occurring.
- In April 1993, a gasoline leak was detected Building 950 gas station.
  - Five USTs were removed. The tanks were replaced with three new fiberglass tanks.
  - Subsequent monitoring at this location indicates that natural attenuation is occurring.
- In November 2004, the gas station at building 950 was permanently closed.
  - January 2005, the remaining three USTs were removed. The tanks were determined to be intact.

# Buildings 940 and 950 Sampling

- 2002 - The Army requested the Maryland Department of the Environment (MDE), Oil Control Program to administratively close out the 940 and 950 spill sites.
- With the closure of the remaining storage tanks, the state is required Fort Detrick to conduct an additional round of testing to characterize the current groundwater conditions prior to their consideration to close out the former spill sites.
- If site cannot be closed out, it will be added to the CC program.

# Buildings 940 and 950 Sampling (cont.)

- Sampling occurred in August 2005
- Preliminary results show contaminant concentrations have continued to fall (most far below cleanup standards) due to natural attenuation.
- Final report with a formal closure request to MDE should be available in December.