



**CH2MHILL**

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**Proposed Remedial Action Plan  
Sites 11 & 12**

**Allegany Ballistics Laboratory  
Rocket Center, West Virginia**

**Presented at the  
La Vale Public Library  
March 8, 2011**

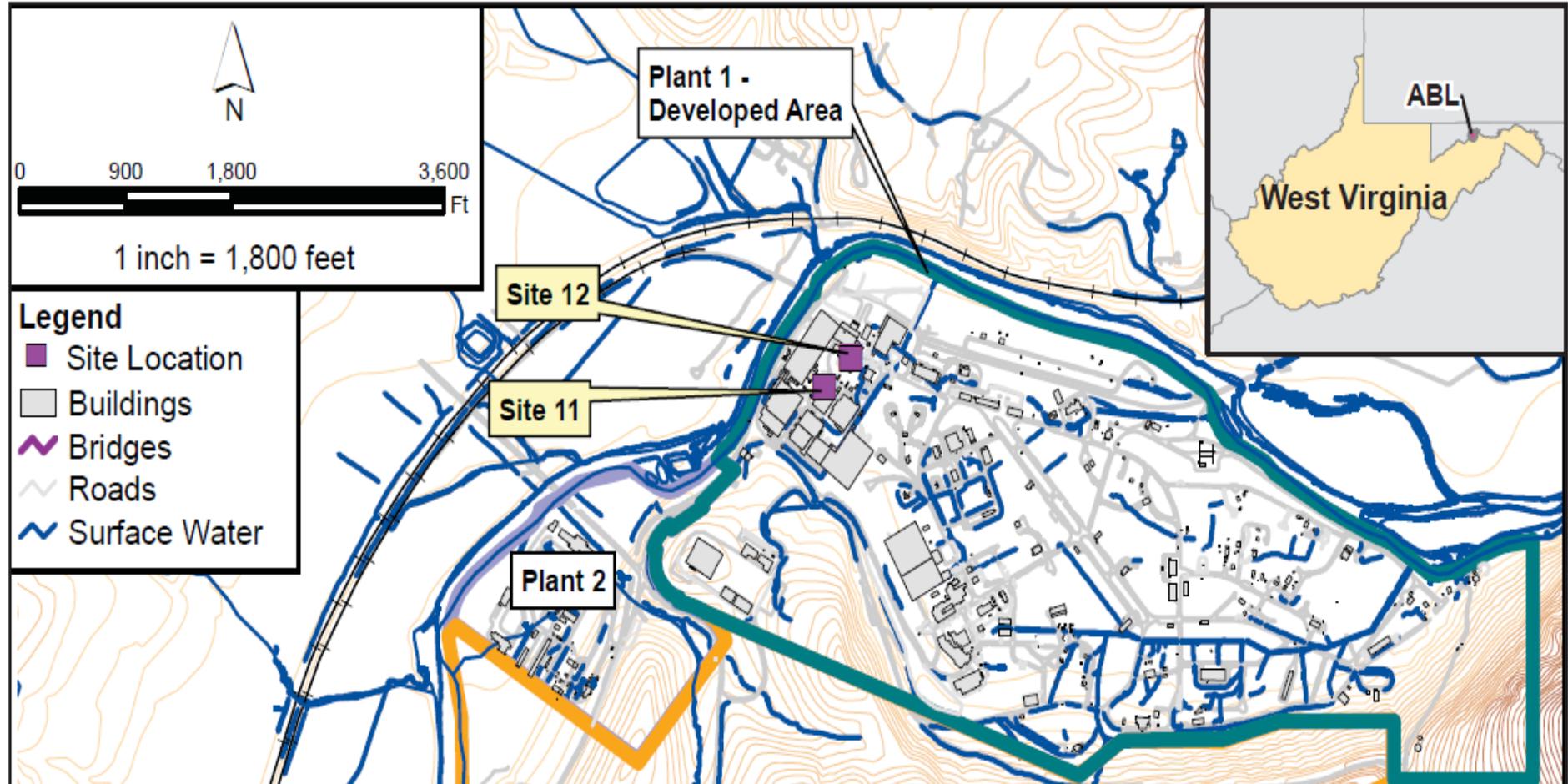
# Why hold a Public Meeting?

- **Part of the Navy's community relations program**
  - Keep the public informed
  - Provide an open forum for the public to ask questions and submit comments
- **Component of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**

# Objectives of the Proposed Remedial Action Plan

- **The Proposed Remedial Action Plan for Site 11 and Site 12 is currently available for the public to review. This document provides:**
  - Documentation of past investigations
  - Summary of Site Risks
  - Description of the preferred alternative
  - Opportunity for the public to provide input on the preferred alternative

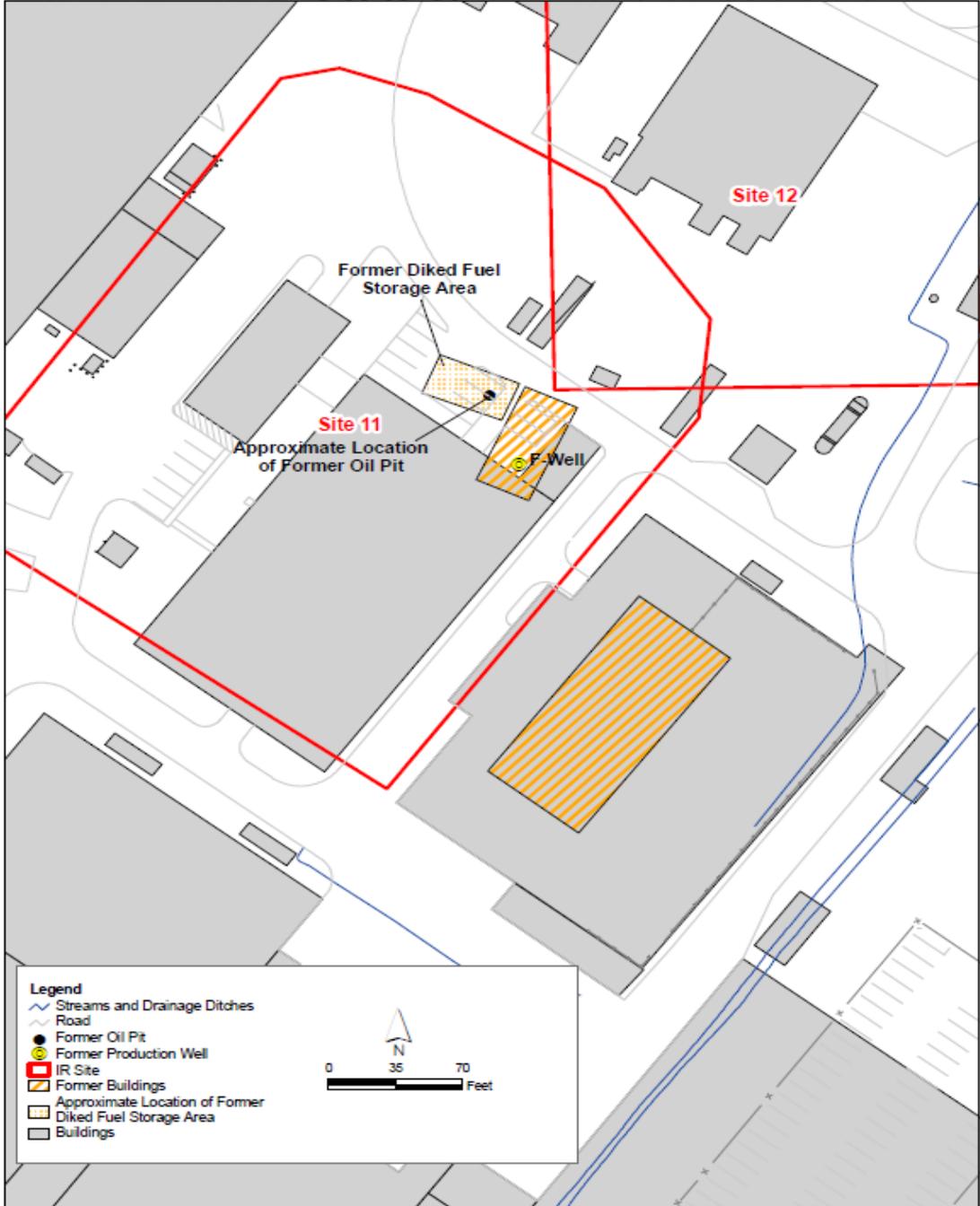
# Site Locations



## Site 11 History

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- Site 11 consists of the former boiler house area, former diked fuel oil storage area, and a former deep bedrock well, known as F-Well.
- The former diked fuel oil storage area was composed of an oil pit and two aboveground storage tanks.
- The two main sources of contamination for this site have been identified as the former oil pit and former F-Well.



# Site 11 Investigations

- **F-Well Identification**

- In 1994 the building over F-Well was removed and the well was identified

- **Advanced Site Inspection**

- Conducted in 1995 to characterize groundwater contamination associated with F-Well and potential soil and groundwater contamination associated with the oil pit.
- Two downhole camera surveys were undertaken down the well.

# Site 11 Investigations continued

- **Remedial Investigation**

- Conducted from 1998 through 2001 to
  - (1) characterize the site,
  - (2) evaluate the potential risk to human health from groundwater and soil,
  - (3) evaluate the potential ecological risk from soil and groundwater.
  - (4) remove F-Well by over-drilling techniques.

- **Feasibility Study (Site 11 and Site 12 combined)**

- Completed in 2010 to address groundwater contamination. The Feasibility Study evaluated five remedial alternatives.

# Site 12 History

- Site 12 consists of an area surrounding a building located in the northwestern portion of ABL Plant 1.
- The building's activities primarily focus on the preparation of rocket casings. In the 1960s and 1970s, chlorinated solvents were used in the degreasing operations.
- The building housed a solvent recovery unit and two above ground storage tanks, which were used for storing and handling the chlorinated solvents.
- Two main sources of contamination at Site 12 have been identified: the former unlined wastewater sump (SWMU 37N) and former Alodine treatment (plating) tank (SWMU 52).



# Site 12 Investigations continued

- **Alodine Treatment Tank Removal (1995)**
- **Initial Site Investigations**
  - Conducted between 1996 and 2000: Constituents were detected in the soil and groundwater at concentrations that posed an unacceptable risk to human health and the environment.
- **Sump Removal**
  - During the investigation of SWMU 37N in 2000, the sump was removed and impacted soil was left in place.
- **Addition Site Investigation**
  - Conducted from 2002 to 2003 to define the nature and extent of VOCs and metals in shallow groundwater and metals in soil in the southeastern portion of Site 12.

# Site 12 Investigations continued



- **Soil Removal Action**
  - In order to address metals, semivolatiles, and volatiles in soil, a removal action was performed following an Engineering Evaluation and Cost Analysis, with community involvement.
  - Resulted in removal of 240 tons of soil
  - No further action is proposed for Site 12 soil
- **Remedial Investigation**
  - Conducted from 2003 through 2007 to characterize shallow and bedrock groundwater and evaluate the potential risk to human health and the environment.
- **Feasibility Study (Site 11 and Site 12 combined)**
  - Completed in 2010 to address groundwater contamination. The Feasibility Study evaluated five remedial alternatives.

# What are the results of the Site Investigations?

- **At Site 11, shallow and bedrock groundwater contain unacceptable levels of metals and volatiles**
- **At Site 12, shallow groundwater contains unacceptable levels of metals and volatiles and bedrock groundwater contains unacceptable levels of metals, volatiles, and semivolatiles.**
- **The targeted contaminants are:**
  - Trichloroethene at Sites 11 and 12 and vinyl chloride at Site 11 in shallow groundwater.
  - In bedrock groundwater, trichloroethene at Site 11 and methylene chloride at Site 12.
  - It is anticipated that the contaminants which are not targeted (mainly metals) will be indirectly remediated.

# Is there a risk to current ABL tenants?

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- **No risks to current tenants**
    - Groundwater is not used as a potable water supply
    - The sites are almost entirely paved, so there is no potential for contact with groundwater or soil.

# Is there a risk to the surrounding community ?

- **No risks to the community**
  - Groundwater at Sites 11 and 12 is not used as a potable water supply on site or off site
  - Groundwater downgradient of Sites 11 and 12 does not show elevated concentrations of site related constituents

# Is there a risk to future ABL tenants?

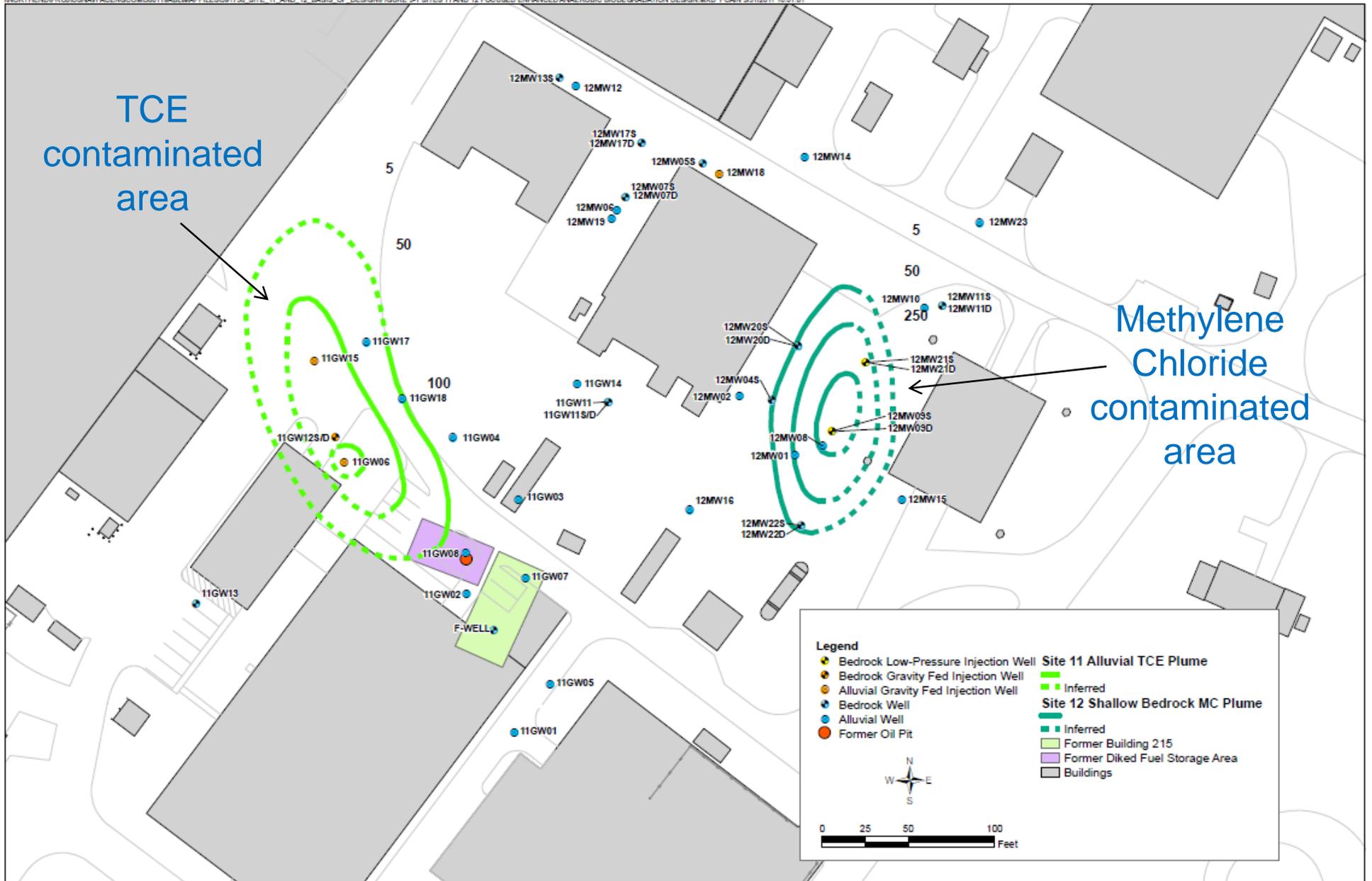
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- **There is a potential future risk from exposure to groundwater to:**
    - Construction workers
    - Onsite residents
    - Industrial workers

# Is action proposed for soil or groundwater?

- **No Further Action is proposed for Sites 11 & 12 Soil**
  - Iron is only constituent with potential risk at Site 11, and it is present at natural levels
  - Impacted soil at Site 12 has been removed
- **Further Action is proposed for Sites 11 & 12 Groundwater**

# What is being proposed?

- **Treatment of shallow groundwater and shallow bedrock groundwater Site 11. Treatment of shallow groundwater and shallow bedrock groundwater at Site 12**
  - Injection of material to encourage biological activity where volatiles are most concentrated called “Focused enhanced anaerobic biodegradation”
- **Sampling to determine effectiveness of remedy called “Monitored Natural Attenuation”**
- **Administrative procedures to control contact with Site groundwater called “Institutional controls”**



# Community Participation

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- **Community participation is part of the preferred alternative selection process**
  - **Comments and agency responses will be included in the Record of Decision**

# Public Participation Process

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- **Public Comment period:** February 21 through April 7, 2011
  - **Public Meeting (tonight's meeting):** March 8, 2011
  - **Additional information in Proposed Remedial Action Plan**
  - **Documents available at Information Repository**
    - LaVale Public Library
    - Fort Ashby Public Library

# Public Comments

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- **Verbal**
  - Tonight at presentation conclusion
- **Written**
  - Post marked by April 7, 2011
  - e-mail: [Thomas.kreidel@navy.mil](mailto:Thomas.kreidel@navy.mil)
- **Point of Contact**

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**Questions?**