

Atlas D Missile Site 4

Remediation

University of Wyoming

Misty Heil

Social Work, Political Science, Honors

Senator Chris Rothfuss

Honors

TCE

Trichloroethylene (TCE) nonflammable, carcinogenic

Solvent to clean rocket engines after readiness exercises

May cause liver & kidney damage, impaired immune system function, & impaired fetal development

Maximum contaminate level is 5 ppb

Background

Located 22 west of Cheyenne

Decommissioned in 1964

TCE detected in municipal wells in 1997 (city begins treating water)

2009 USACE facilitates treatment at the Sherard water treatment plant

2015 remediation plans stalled in Remedial Investigation

Atlas D Missile Site 4

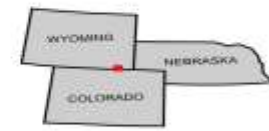
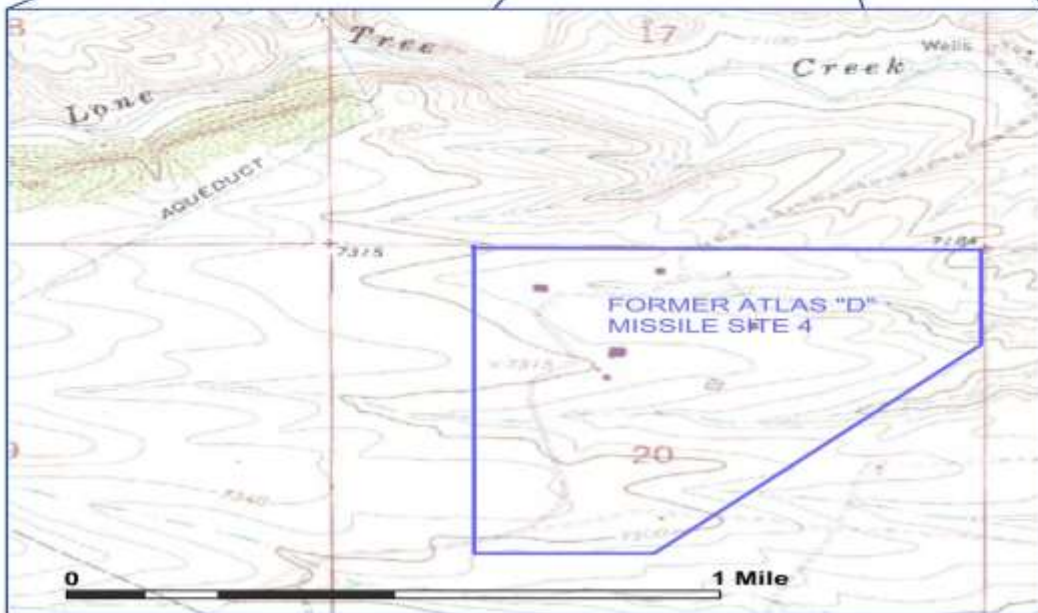


Figure 1-1
Site Vicinity Map
Former Atlas Missile Site 4
Laramie County, Wyoming

Atlas D Missile Site 4



Atlas D Missile Site 4



Atlas D Missile Site 4



Atlas D Missile Site 4



Purpose

- Gain understanding of complex dynamics
- Advocate for movement in remediation process
- Facilitate communication and accountability

Importance

- Contamination plume is in the soil vapor, soil matrix, and groundwater
- Contamination is in water-bearing zones

White River Formation (occur at approximately the same depth as the TCE contamination)

Ogallala Formation

Methods

- Lobbied support from members of the state legislature
- Direct communication with stakeholders
- Attended meetings between agencies and public
- Compiled archival data (public & private)
- Sought out expertise of professionals

Stakeholders

Property owners/Public

Restoration Advisory Board

Board of Public Utilities

Wyoming Water Development Commission

Wyoming State Engineer's Office Congressional Leaders

Wyoming Department of Environmental Quality

Wyoming State Representatives

Governor's Office

United States Army Corps of Engineers

United States Environmental Protection Agency Region 8

Remediation Process

Preliminary Assessment (PA): initial look into potential site contamination and who might be responsible.

Site Inspection (SI)/Expanded SI (ESI): if PA recommends further action, an SI is conducted. Field personnel visit the site to collect samples and do additional records searches. An ESI may follow the SI; this involves expanded sampling and data interpretation.

Remediation Process

***Remedial Investigation (RI):** additional data is collected and evaluated to characterize the physical site conditions, determine the nature and extent of contaminants in impacted media, and assess the risk to human health and the environment.

Feasibility Study (FS): preliminary remedial action objectives (RAOs) are developed, based on applicable federal/state rules/regulations. A series of remedial action alternatives (RAAs) are developed/evaluated based on USEPA criteria to determine their effectiveness. A Focused FS is prepared when substantial site data has already been gathered.

Remediation Process

Proposed Plan (PP): the preferred RAA is presented to the public; a public meeting and comment period are held for the PP.

Decision Document (DD): the final RAA and rationale is defined, including the site conditions, scope of action, and final RAOs.

Remediation Process

Pre-design/Design of Selected RAA: additional field data is collected and analyzed, if needed, to support the design.

Construction/Implementation of RAA: the RAA is constructed and tested to design parameters. The RAA is operated until the remedial action objectives are reached.

Remediation Process

Site Closeout: once the remedial action objectives are met, the remedial action is stopped, the equipment is removed, the site is restored and the closeout report is finalized.

The Comprehensive Environmental Response,
Compensation and Liability Act (CERCLA) of 1980

Literature

Communication and the Systems Theory of Organization

Interrelated elements form a unified or complex whole

Acts as a system binder

Serves to integrate all the subsystems for internal stability

Serves to link the total system with the external environment

Literature

An Approach to Community Facilitation Using
Mediation Techniques: Skills for the Sociological
Practitioner

Focus on community assets

Building relationships to solve problems

Redefines role to be concerned with process versus
content

Literature

Conceptual Issues in Inter-Agency Collaboration

Most productive route is likely to be a “loose-tight” configuration offering localities a great deal of freedom to do their own thing, but always within a framework of mutually agreed values and standards.

Literature

Incentive Systems: A Theory of Organizations

Organizational behavior and change are explained by the differing consequences of different incentive systems: material, solidary, and purposive

Internal and external activity of organizations may be explained by understanding their incentive systems

Literature

Federal Responsibilities for Nuclear Weapons Complex Cleanup

Suggest that a “decoupling” of agency responsibility for nuclear cleanup of contaminated federal areas may be desirable and that it may not be in the country’s best environmental interest to view nuclear cleanup as solely a federal public works program

Points of Contention

Where to drill test wells?

Who will pay for debris removal at site pits?

What is the best course for action?

Should local agencies have more autonomy and oversight?

Implications

Need for professional mediation during RAB meetings

Streamlined communication process

Usage of professionals proficient with local strata

Questions

<http://www.epa.gov/superfund/cleanup/>

<http://www.atlassite4.com>