



Taken to the Cleaners: Contaminated Dry Cleaning Sites

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Overview

- © Dry Cleaning and Its Toxic Legacy
- © Contaminants of Concern
- © Remediation methods
- © What is Superfund?
- © Dry cleaner Superfund sites in New Mexico
- © Environmental Injustice?
- © Potential State Action



(Image Source: Print Ad by Rodgers Townsend (accessed 11/18/18 at <https://www.google.com/search?q=pleats+dry+cleaning+ad>))

Dry Cleaning: What, Exactly, Is It?

- © Cleanliness! Convenience! Classy Clothes!

Yeah, but...

- © Use of non-aqueous organic solvents to clean fabrics

Translation: Not Water

- © Chlorinated Solvents

Did you know?: Chlorinated solvents are also used in industrial settings as degreasers, metal-cleaners, and PVC production components



Chlorinated Solvents

	In the Environment	
Perchloroethylene (PCE)	<p><u>AIR</u>: Breaks down slowly, can travel long distances</p> <p><u>SOIL</u>: Breaks down slowly, percolates into groundwater</p> <p><u>WATER</u>: Breaks down slowly</p>	
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Trichloroethylene (TCE)	<p><u>AIR</u>: Breaks down quickly</p> <p><u>SOIL</u>: Breaks down slowly, percolates into groundwater</p> <p><u>WATER</u>: Breaks down slowly</p>	<ul style="list-style-type: none"> • Headaches, dizziness • Facial nerve damage • Coma, death • Neurological damage • Fetal damage • Cancer

(Sources: *Trichloroethylene (TCE)*, CDC Agency for Toxic Substances and Disease Registry (ATSDR), CAS 79-01-6 (accessed 10/13/18 at <https://www.atsdr.cdc.gov/toxfaqs/tfacts19.pdf>) and *Perchloroethylene ToxFAQs™*, CDC Agency for Toxic Substances and Disease Registry (ATSDR), CAS 127-18-4 (accessed 10/13/18 at <https://www.atsdr.cdc.gov/toxfaqs/tfacts18.pdf>))

Dry Cleaning's Toxic Legacy

© Contamination:

© Storage – Surface or underground drums and tanks

© Spills / Leaks – Chlorinated solvents denser than water, can penetrate concrete and sink through floor cracks

© Disposal Practices –

- Wastewater: poured into septic tanks, storm sewers, floor drains; dumped on ground
- Spent filters: tossed into trash
- Sludge: dumped into trash



Dry Cleaning's Toxic Legacy

◎ National Scope:

- ◎ Leading source of environmental liability at commercial retail properties
- ◎ 30,000 active drycleaner sites
 - ◎ 85% use PCE as primary chemical cleaner
 - ◎ 75% likely contaminated
- ◎ 9,000 – 90,000 former sites potentially contaminated
- ◎ Major contributors to groundwater contamination
- ◎ \$7.6 billion = estimated national cleanup cost

(Sources: *10-Year Accomplishment Report*, State Coalition for Remediation of Drycleaners (2008) (supported by EPA Technology Innovation and Field Services Division and the National Ground Water Association) (last viewed 11/30/2023 at <https://astswmo.org/files/Resources/SCRD/SCRD-10-Year-Accomplishment-Report.pdf>); Larry Schnapf, *Dry Cleaners: the Environmental Scourge of Commercial Real Estate Property* (November 2014), https://www.environmental-law.net/wp-content/uploads/2011/05/PREL1411_Schnapf.pdf (last viewed 11/30/2023).

Dry Cleaning's Toxic Legacy

© New Mexico:

- © 20% of the Superfund Sites in NM are dry cleaner sites
 - © Albuquerque
 - © Española / Santa Clara Pueblo
 - © Grants
 - © Roswell
- © Variety of remedies
- © Disparities in funding
- © Differences in remediation speed and current status



Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 42 U.S.C. 9601 *et seq.*

⊙ Triggered:

- ⊙ “[R]elease or substantial threat of a release
- ⊙ of a hazardous substance
- ⊙ into the environment.” (CERCLA Sec. 104(a))

⊙ Response:

- ⊙ Removal Action (CERCLA Sec. 101(23))
- ⊙ Remedial Action (CERCLA Sec. 101(24))

⊙ Superfund:

- ⊙ National Priorities List (NPL) to access Superfund money for cleanup



Remediation Methods

- © Natural Attenuation
- © Excavation of Soil
- © Soil Vapor Extraction
- © Pump and Treat of Water
- © In-Ground Chemical Oxidation
- © Thermal
- © Biodegradation
- © Institutional Controls



Drycleaner Superfund Sites in New Mexico



Norge Town Laundry and Dry Cleaners, Española, NM



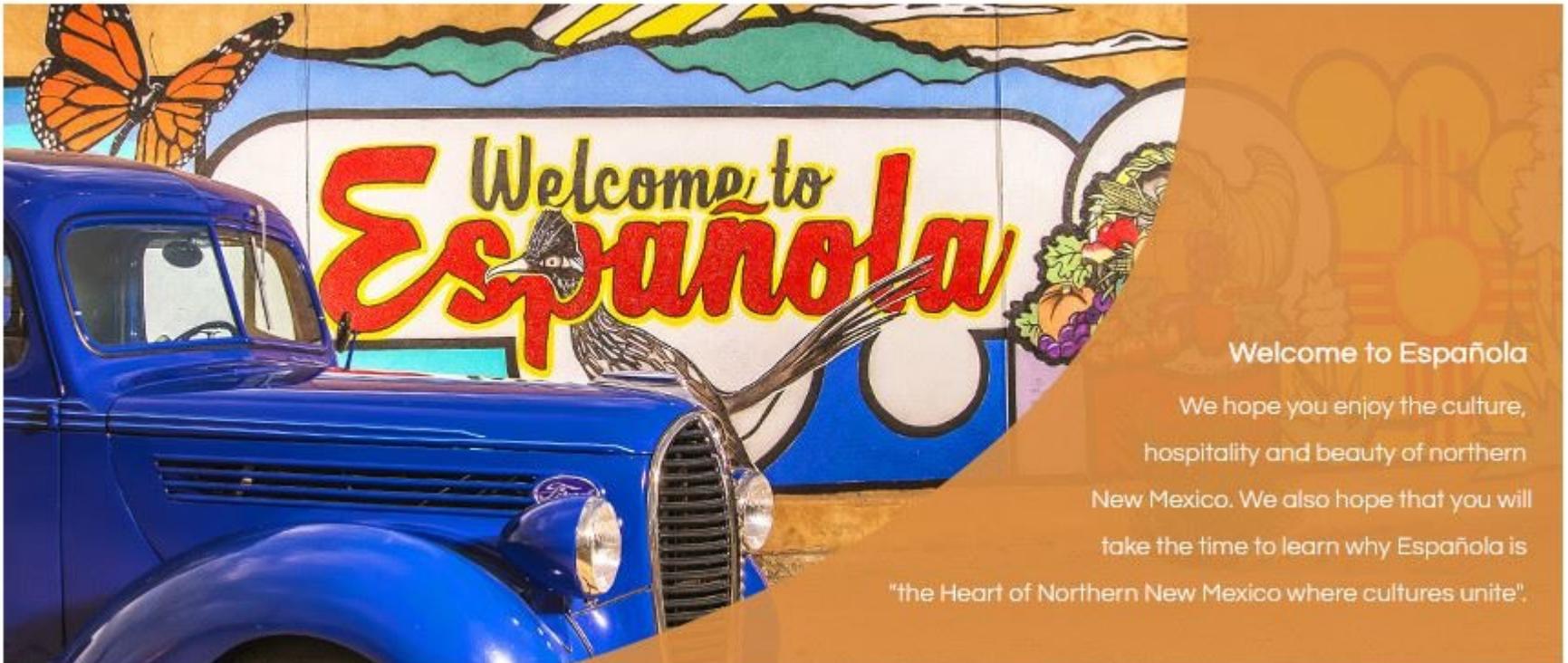
(Photo source: *Technical Assistance Project Report, North Railroad Avenue Plumbers Superfund Site, NPL #NMD986670156* (March 2004) (prepared by Environmental Health Consultants for El Rio Arriba Environmental Health Association).

Drycleaner Superfund Sites in New Mexico

Contaminated Drycleaner Site	Location	Scope of Contamination	Date contamination discovered	Date ROD Issued	Remedy/ies	Anticipated cost	Current Status
Fruit Avenue Plume	Albuquerque	<ul style="list-style-type: none"> 44-104 acres 550+ ft. deep 	1989	Sept. 2001	<ul style="list-style-type: none"> Pump and Treat 	~\$11.5M	Redeveloped
Grants Chlorinated Solvent Plume	Grants	<ul style="list-style-type: none"> 20 acres 20+ ft. deep 		June 2006	<ul style="list-style-type: none"> Dechlorination Vapor intrusion mitigation Institutional controls 	\$29.5M	Continued remediation
Lee and West Second St.	Roswell	TBD	2008	N/A	TBD	TBD	Feasibility Study phase
North Railroad Ave. Plume (NRAP)	<ul style="list-style-type: none"> Española, Santa Clara Pueblo 	58 acres 280 ft. deep	1989	Sept. 2001	<ul style="list-style-type: none"> Enhanced Bioremediation (vegetable oil) 	~\$5.8M	<ul style="list-style-type: none"> Continued remediation NMED (with ongoing EPA consultation) leading Operation & Maintenance

Economic Development!

Española's Main Street Program



Welcome to Española

We hope you enjoy the culture, hospitality and beauty of northern New Mexico. We also hope that you will take the time to learn why Española is "the Heart of Northern New Mexico where cultures unite".

Economic Development! . . . Or Not

“Drainage Blocks Paseo Project

If a . . . road project on Paseo de Oñate is to move forward . . . downsiz[e] the project . . . to **stay out of the Superfund site.**” (*Rio Grande Sun*, April 6, 2006)



Economic Development! . . . Or Not

“Mayor Seeks Faster Solution to Española Superfund Site [P]lans to remodel much of the Plaza have lost funding because of **delays associated with the Superfund cleanup** . . . ‘We can’t wait 30 years, not even 10 years.’”
(*Rio Grande Sun*, September 20, 2007)



Economic Development! . . . Or Not

“City Agrees to Make Only Minor Changes to Paseo de Oñate After having **more than \$10 million yanked** from a project to improve Paseo de Oñate . . . The **Superfund site at North Railroad Avenue stalled the project.**” (*Rio Grande Sun*, January 3, 2008)



Economic Development! . . . Or Not

“City Mulls Ford Building [for New Library] The city would have been allowed to build on the site despite the contamination but would have had to **pay to pump out and dispose of any contaminated groundwater it hit during construction.**” (*Rio Grande Sun*, July 23, 2011)



Environmental Injustice?



Case Study:

A Tale of Two Cities' Plumes

Española's

North Railroad Avenue Plume

- ⊙ Contamination Discovered: 1989
 - ⊙ Dry Cleaning: 19 years
 - ⊙ Plume: 58 acres, 260 ft. deep
 - ⊙ Contaminants of Concern: 2
- ⊙ Documents online: only after community outcry
- ⊙ Population within 1.0-mile radius:
 - ⊙ Population = 2,796
 - ⊙ Minority population = 92%
- ⊙ Selected remedy: Enhanced bioremediation (emulsified vegetable oil)
- ⊙ Cost estimate: \$5.822M

Albuquerque's

Fruit Avenue Plume

- ⊙ Contamination Discovered: 1989
 - ⊙ Dry Cleaning: 32 years
 - ⊙ Plume: up to 104 acres, 554 ft. deep
 - ⊙ Contaminants of Concern: 5
- ⊙ Documents online: Many
- ⊙ Population within 1.0-mile radius:
 - ⊙ Population = 11,330
 - ⊙ Minority population = 61%
- ⊙ Selected remedy: Pump and Treat
- ⊙ Cost estimate: \$11.5M



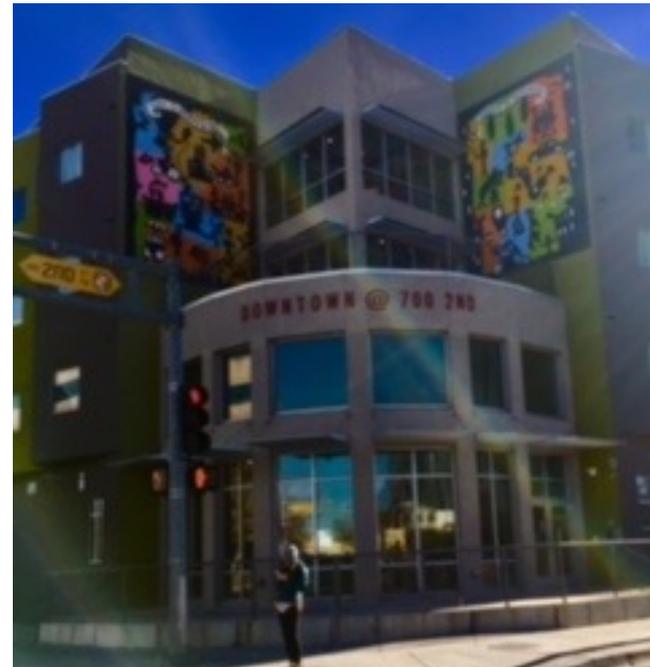
Case Study: A Tale of Two Cities' Plumes

Española TODAY



“**Plume Clean-Up Efforts Murky State** and federal scientists **have yet to determine if the clean-up efforts of a chemical spill in Española is working as planned.**” (Rio Grande Sun, November 4, 2015)

Albuquerque TODAY



“Collaboration by the NMED, EPA and a local developer helped support **the site property’s return to use as a green housing development.**” (NM Superfund Sites in Reuse, EPA Superfund Website, accessed 10/15/2018 at www.epa.gov/superfund-redevelopment-initiative/superfund-sites-reuse-new-mexico)

Environmental Justice?

- ❖ **Fair Treatment and Meaningful Involvement** of communities regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

- ❖ **What can the State do to achieve environmental justice for communities impacted by contaminated drycleaning sites?**
 - ❖ Conduct studies to identify contaminated sites and to determine demographics of communities to identify disparate impacts on disadvantaged communities;
 - ❖ Meaningful community engagement, beyond minimum requirements of notice
 - Note: Positive results and agency-community collaboration from improved community engagement (North Railroad Ave. Plume);
 - ❖ Enact and fund a drycleaning-specific remediation program.
 - ❖ Join the State Coalition for Remediation of Drycleaners
 - 13 member states (which all have enacted formal drycleaning remediation programs);





But, can you clean
Norgetown out of
anything?

Questions?

