



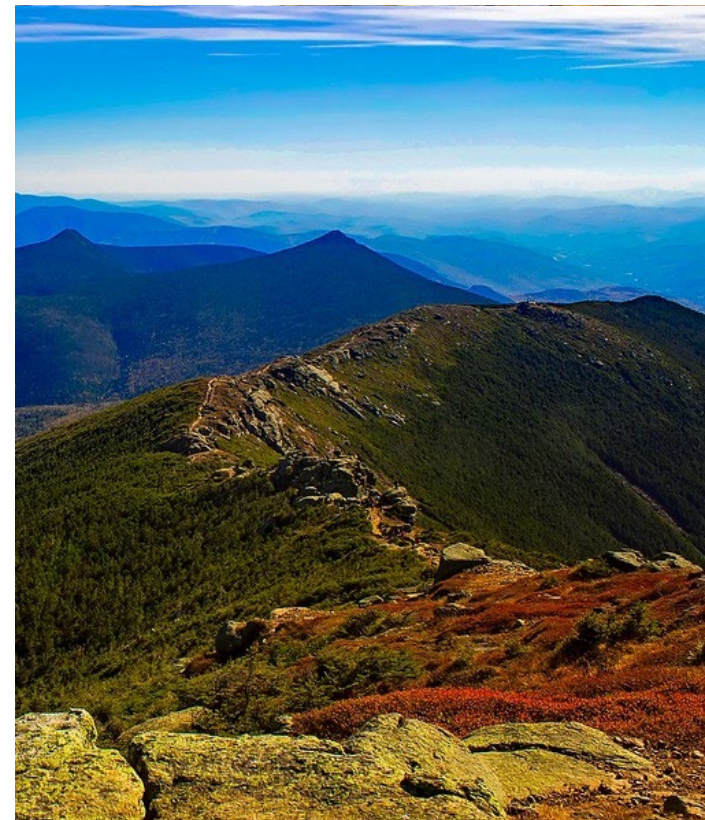
Asbestos Disposal Sites in NH

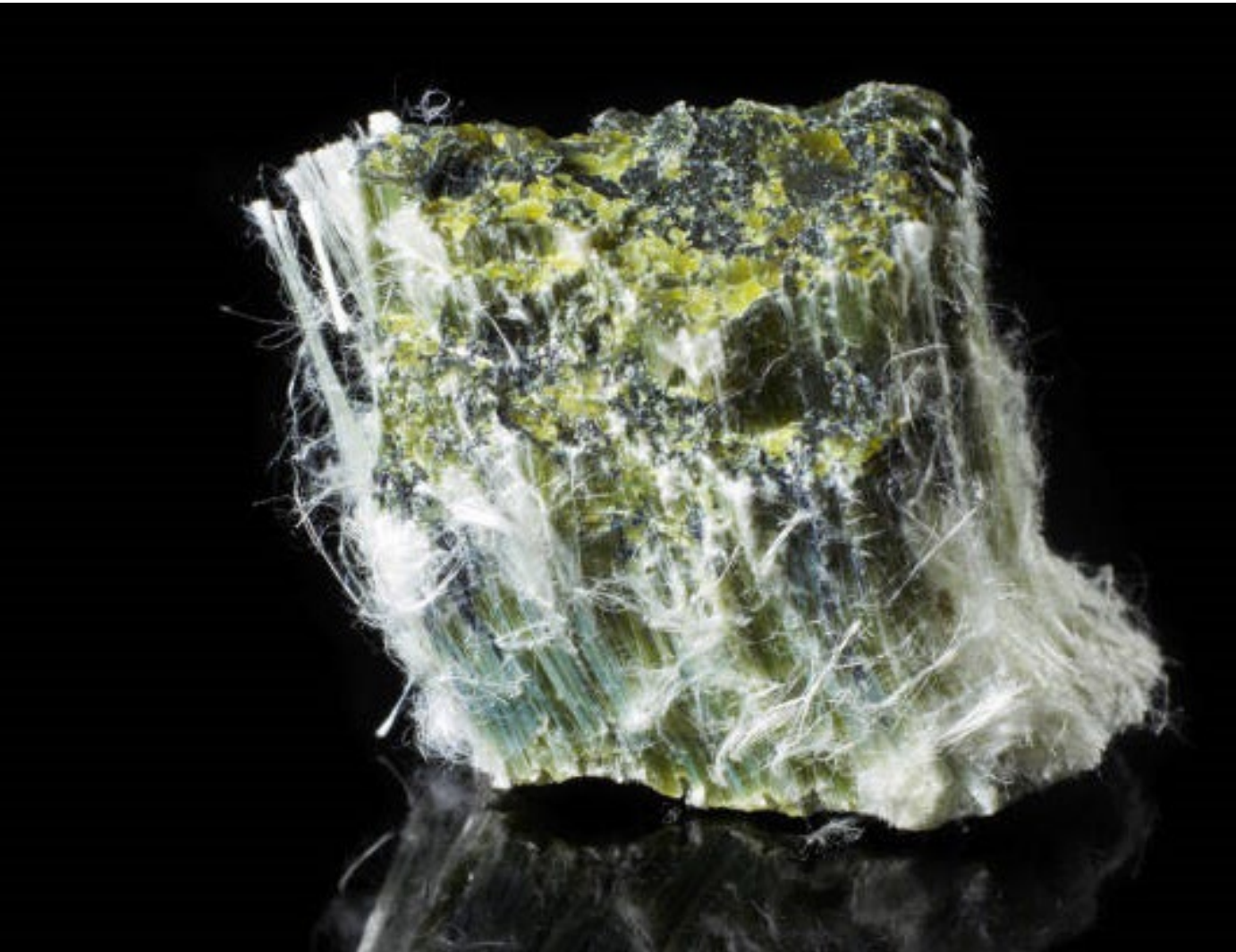
Julie A. Spencer, P.G.
NHDES Hazardous Waste Remediation Bureau





Asbestos Properties





Asbestos is a mineral

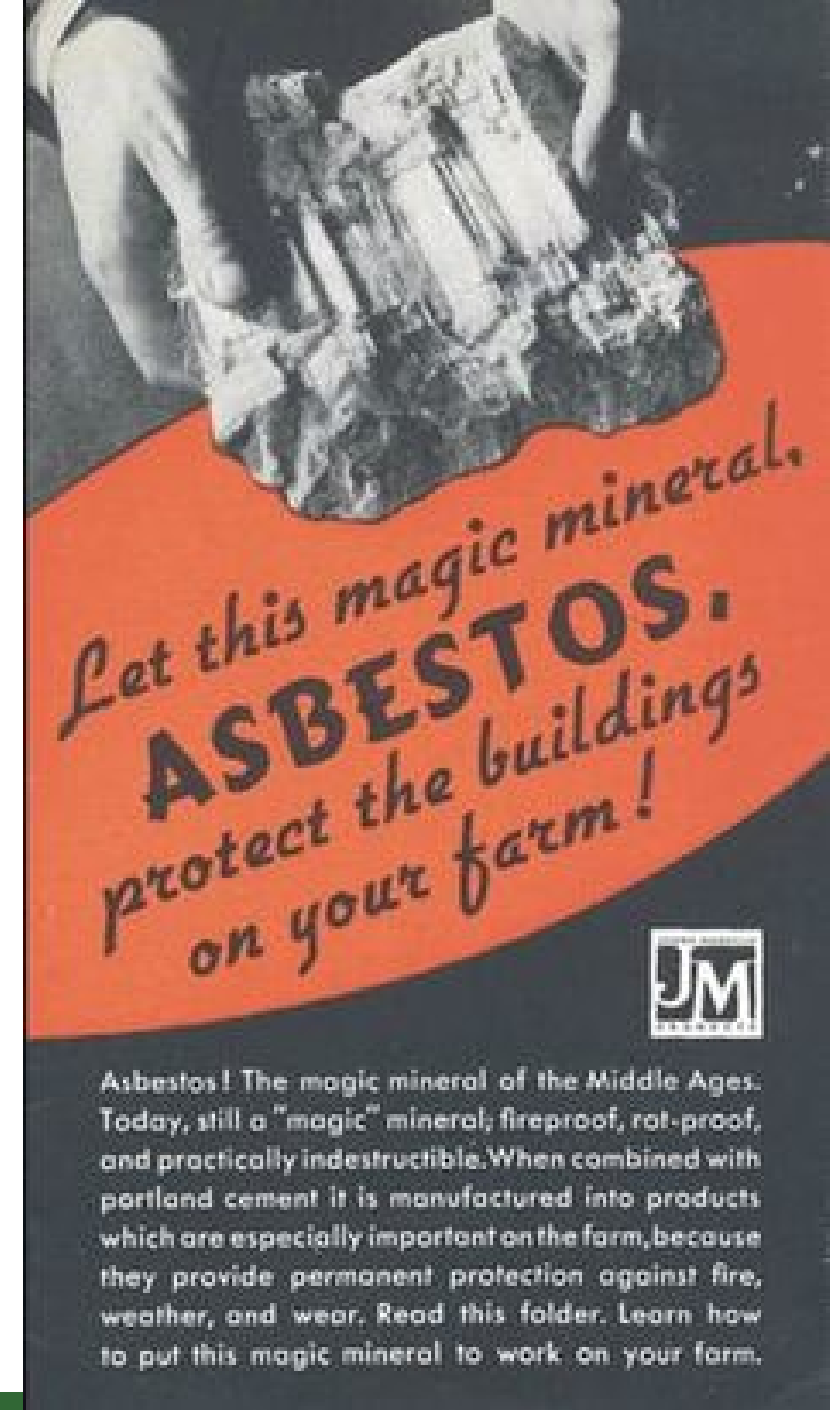
Most Common Types:

- ✓ Chrysotile - white
- ✓ Amosite - brown
- ✓ Crocidolite - blue

Asbestos Properties

Separates into long microscopic fibers which are:

- Strong – high tensile strength
- Flexible – can be spun and woven
- Heat resistant / Non-combustible
- Good insulators
- Resistant to corrosion
- Low electrical conductivity



Let this magic mineral,
ASBESTOS.
protect the buildings
on your farm!

JM

Asbestos! The magic mineral of the Middle Ages. Today, still a "magic" mineral; fireproof, rot-proof, and practically indestructible. When combined with portland cement it is manufactured into products which are especially important on the farm, because they provide permanent protection against fire, weather, and wear. Read this folder. Learn how to put this magic mineral to work on your farm.

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THE MODERN PIPE JOINS FAST, STAYS TIGHT



"K&M" ASBESTOS-CEMENT PIPE and exclusive FLUID-TITE Coupling

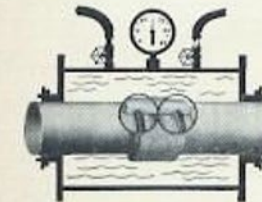


Illustration of external fluids and entrance of roots are avoided by "K&M" FLUID-TITE Coupling installed with "K&M" Asbestos-Cement Sewer Pipe. Here, external water under 25 psi pressure (far beyond ordinary field conditions) has no effect on the FLUID-TITE joint.

For gravity sewer systems, "K&M" Asbestos-Cement non-pressure Pipe is the modern answer to the need for low-cost, permanent water-tight connections. The exclusive FLUID-TITE® Coupling makes installation quick and easy—and permanent.

No special equipment; little skill needed. Just two easy steps: 1. Lubricate rubber rings; 2. Slide pipe into coupling. The FLUID-TITE principle keeps piped fluids in, keeps external fluids and roots out, and allows pipe-laying that keeps up with the trench digger in speed. Installation costs go down when you specify the modern pipe and coupling system... "K&M."

Learn the advantages of the modern pipe from the K&M distributor. Or write to us for complete information.

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA



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Bell's Asbestos



Heavy

Medium

Light

BESTOBELL
(Regd. Trade Mark)
EQUIPMENT
FOR AERODROME
FIRE PARTIES.

*"Everything in
Asbestos for the
Aircraft Industry."*

**BELL'S ASBESTOS & ENGINEERING
SUPPLIES LTD.**
BESTOBELL WORKS, SLOUGH, BUCKS. SLOUGH 830 (4 lines)

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OH! MY FEET!
ONE TRIAL OF

ALBERT'S ASBESTOS INSOLES
PAT. APP. FOR

— AND —
“FOOT EASE ASSURED”

The effects of our antiseptic insoles are almost magical. They prevent rheumatism, and stop all soreness instantly. By wearing them, the feet feel so good that the whole nervous system is benefited. Callouses can be peeled right off, bunions are reduced and the inflammation drawn out, and the bad smelling of sweaty perspiring feet will disappear immediately.	BEWARE OF IMITATION!  INSIST ON Albert's Asbestos Insoles
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“NO MORE FOOT TROUBLES”

ASBESTOS INSOLES

MAKE YOUR FEET FEEL HAPPY

Warming in Winter, Cooling in Summer

AS ASBESTOS IS A NON-CONDUCTING MINERAL.

Asbestos Properties

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ROCKBESTOS
INSULATED WIRES ARE
ACID PROOF

Motors or other electrical equipment whose windings are subjected to the destructive action of acid or acid fumes are sooner or later going to deteriorate until a burnout is the ultimate result. ROCKBESTOS will positively stop this.

In many industrial plants the burning out of a motor might easily cause a very considerable loss where the finished product depends on uninterrupted processing.

This sort of expense and delays can be entirely eliminated by the use of ROCKBESTOS—the best insurance you can buy against burnout troubles. Spare armature and field coils should be kept on hand for repairs until *all* your equipment is wound with ROCKBESTOS.

If you haven't seen it, send for samples, test it—then ask yourself: "Can I afford NOT to use it?" There's only one answer.

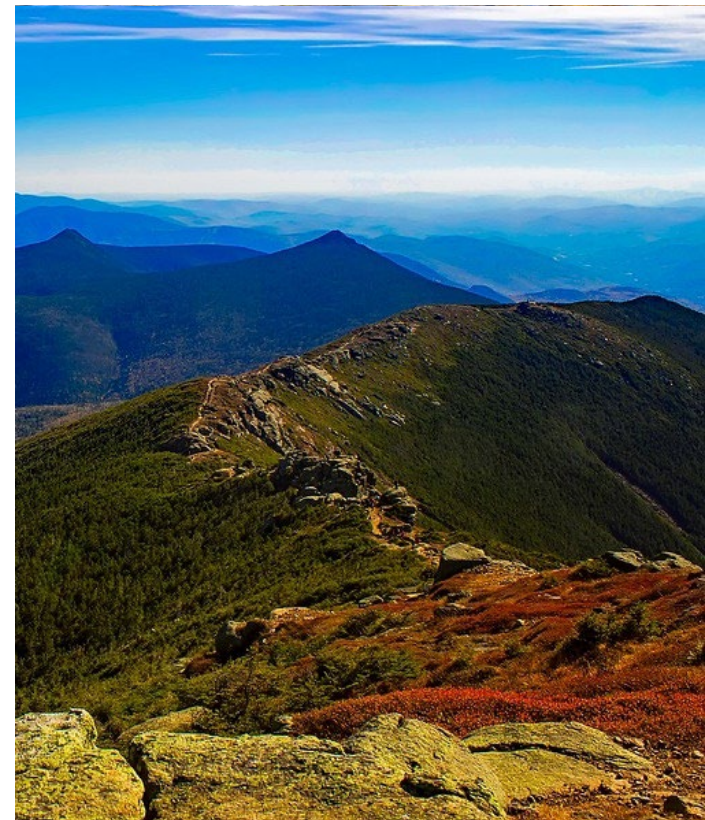
MARLIN-ROCKWELL CORPORATION
Insulated Wire Division
NEW HAVEN, CONN.

Asbestos was even decorative





Local History

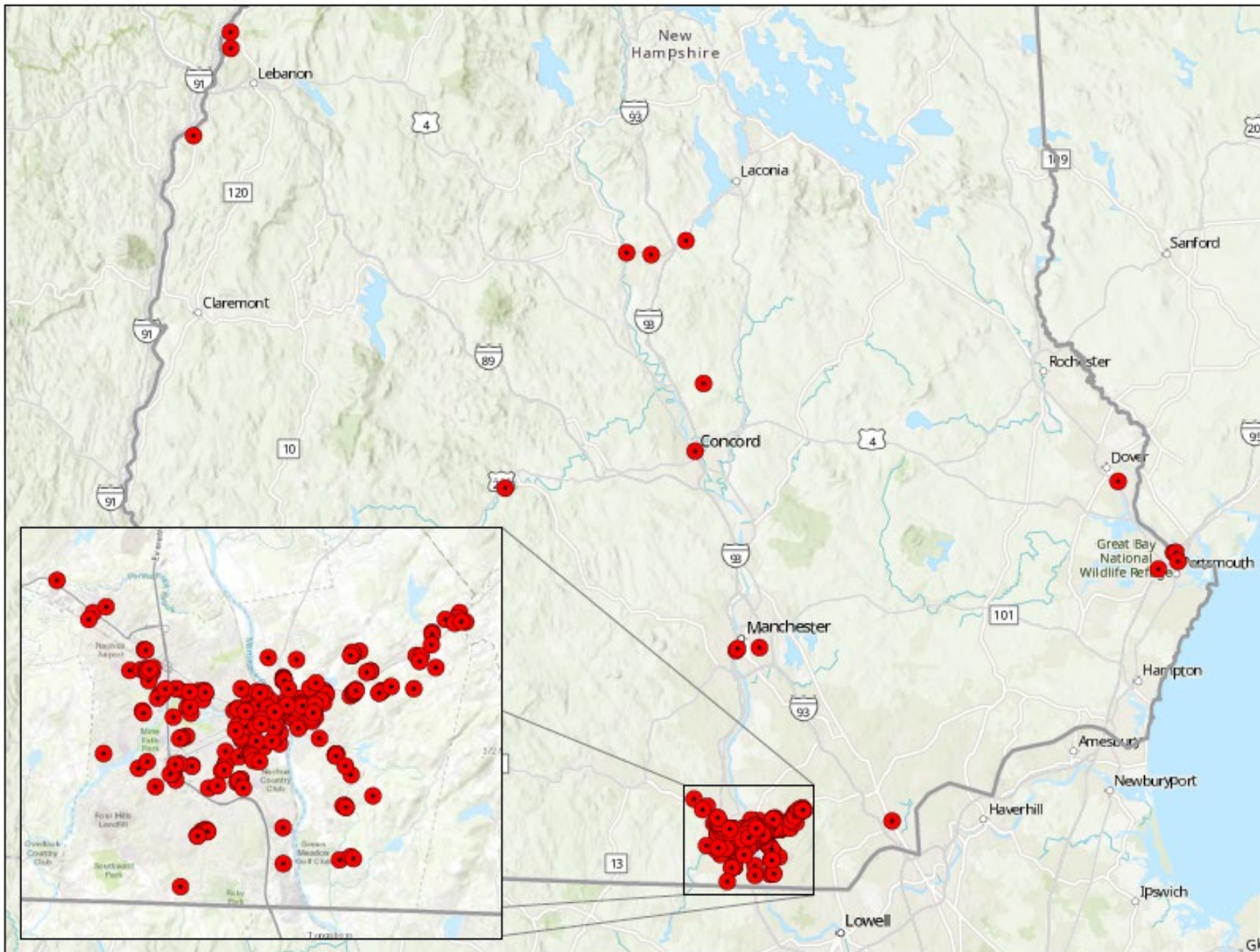


Asbestos Product Manufacturing in NH

- Meredith – Amatex Corporation (former Keasbey & Mattison)
 - Asbestos cloth
 - Ceased operation c. 1982
 - Waste disposed at town landfill
- Tilton – Quin-T (former Johns-Manville)
 - Asbestos paper products
 - Ceased operation late 1980s
 - Waste disposed in on-site landfills
- Nashua – Johns-Manville Corporation
 - Asbestos construction & industrial products
 - Ceased operation December 1985
 - Waste given to Nashua & Hudson property owners for fill



Where are the ADS in NH?



- ☐ Pellets
- ☐ Spheres
- ☐ Whole Sheets
- ☐ Sheet Scrap
- ☐ Rolled Sheets
- ☐ Dewatered Sludge
- ☐ Baghouse Dust

Typical Waste from Johns-Manville





Pellets

- ❖ Grayish
- ❖ Size: ¼-inch diameter
- ❖ Pegboard punch-outs
- ❖ Resemble gray-colored pencil erasers or rabbit pellets

Spheres



- ❖ Grayish, off-white

- ❖ Size:

- ❖ 1/2 - 1 inch in diameter

- ❖ resemble pebbles or marbles



Whole Sheets ("Board Waste")

- ❖ Gray, black, green, red, white, brown
- ❖ "Cement Board"
- ❖ Size:
4 ft. by 8 ft.
1/8 – 4 inches thick



Sheet Scraps ("Plate Waste")

- ❖ Gray, black, green, white, red, brown
- ❖ Size Varies
 - ❖ 1/4 sheet to thumbnail
- ❖ Irregular edges



Rolled Sheets

- ❖ Grayish in color
- ❖ 6- 24 inches in diameter
- ❖ Thin sheets... 1/8 inch or less
- ❖ Veneer butt ends
- ❖ Not commonly found

Dewatered Sludge



- ❖ Gray, green, white, black
- ❖ Fine material / friable
- ❖ Matted / Clumps / Chunks



Baghouse Waste

- ❖ White, gray, black, green, red, brown
- ❖ Fine/Dust-like, with time becomes Cement-like
- ❖ Collected from plant “baghouse” (dust collector)
- ❖ Dumped in piles or layers

Mixed Dumping was Common



- Topography indicates filling—steep slopes, wetland, piles
- Surface debris (pellets/plate waste)
- Within 2 ft. of surface
- Poor vegetation
- Accessible by trucks
- Contiguous with other known sites

Typical Site Features





ADS in the wild...

Erosion uncovering plate waste on steep slope.



ADS in the wild cont'd

Board waste near surface water.



ADS in the wild cont'd

Piles of board waste and
baghouse waste.



ADS under the surface...

Layers of baghouse waste in different colors.

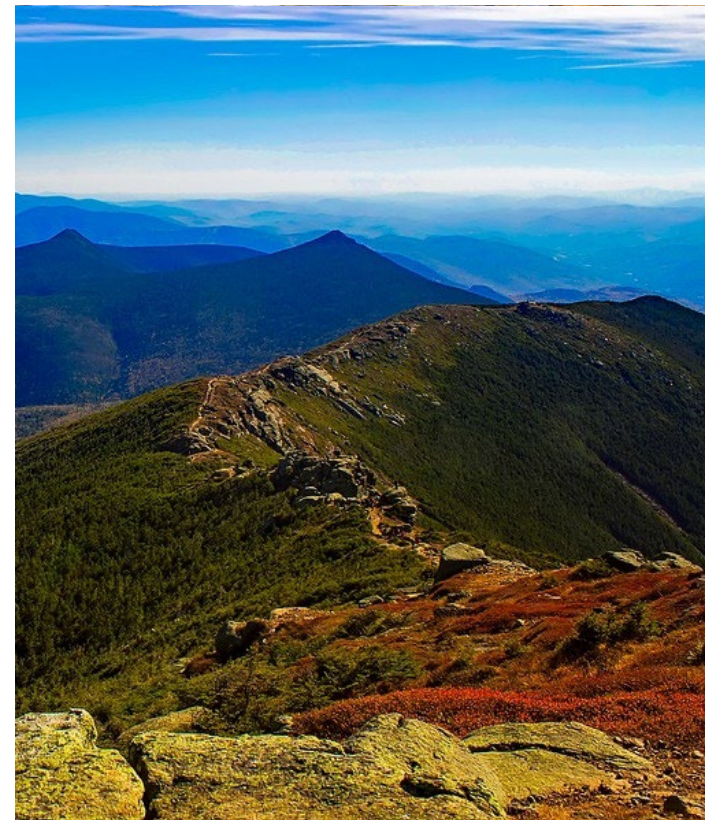


ADS under the surface...

Plate waste



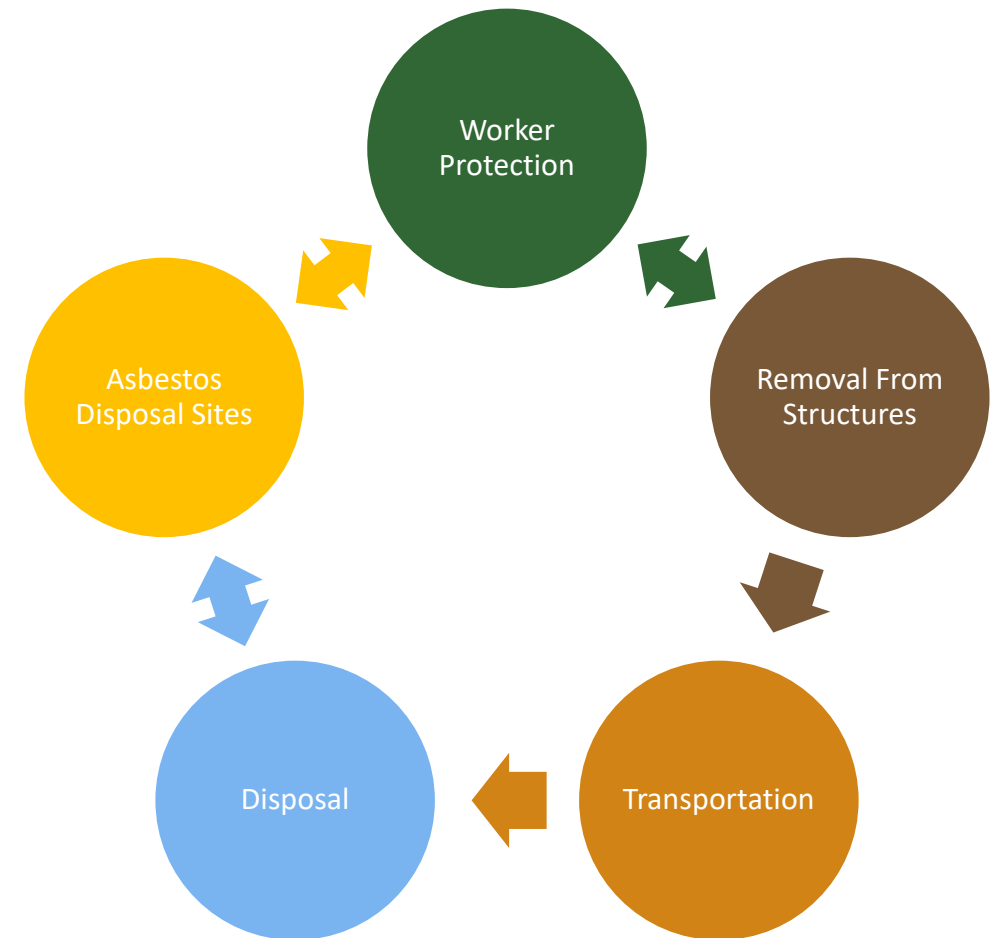
The Regulations



Key Areas of Regulation

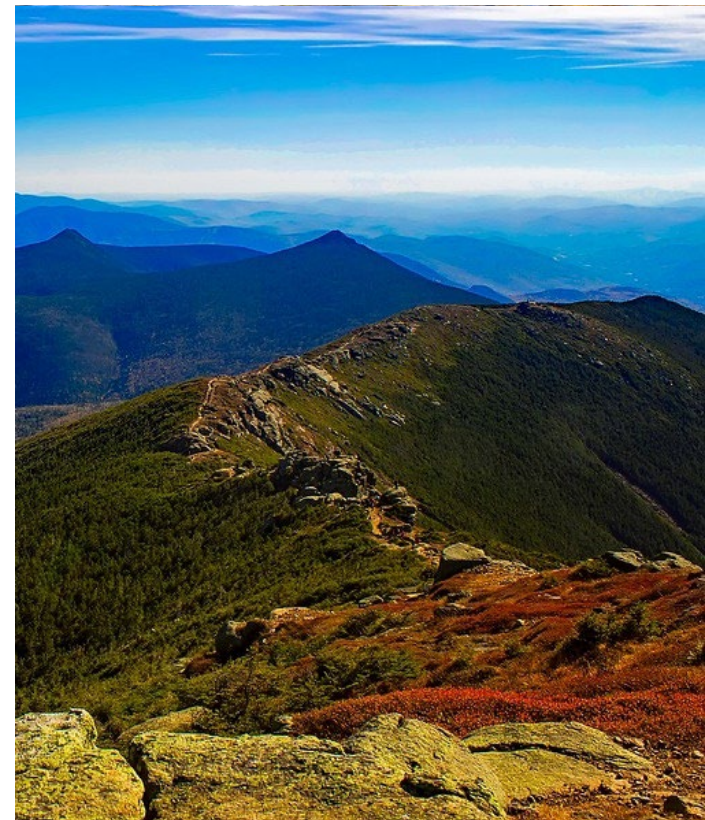


- Worker Protection: OSHA
 - 29 CFR 1910
 - 29 CFR 1926
- Abatement: NESHAP & Air Resources Division
 - 40 CFR 61
 - **Env-A 1800 (includes licensing & certifications)**
- Transportation: USDOT & NHDOS
- Disposal: WMD Solid Waste Management Bureau
 - **Env-Sw 901**
- ADS: WMD Hazardous Waste Remediation Bureau
 - **Env-Sw 2100**





Env-Sw 2100

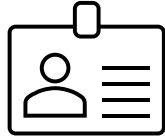
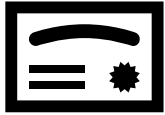


Env-SW 2100: Management and Control of Asbestos Disposal Sites Not Operated After July 9, 1981

- Focus: older sites where dumping occurred.
 - Inactive: not operating facilities
 - Goal: prevention of releases
- Active landfills: NOT covered by these rules.
 - Solid Waste Rules for active facilities: Env-Sw 100-2000.
- Env-Sw 100-2000 do not regulate ADS

Env-Sw-2104: General Site Management Requirements

- Asbestos must be covered to prevent release
- Cover must be maintained & monitored / inspected
- Abide by Activity and Use Restrictions (AURs)
 - Use of property consistent with cover system
 - Do not disturb asbestos except in accordance with:
 - Work Practices & Engineering Controls
 - Qualified Person
 - Approved Work Plan (if major non-emergency project)
- Disclosure requirements
 - Place notice in chain of title
 - Notify buyers, workers, contractors, tenants



Certifications and Licenses – Abatement vs. ADS

Inspectors, Abatement Workers, Abatement Supervisors

- Certified to work with asbestos in structures, buildings and equipment in NH.

Asbestos Abatement Entity License

- Allows an asbestos abatement company to perform major asbestos abatement projects in NH.

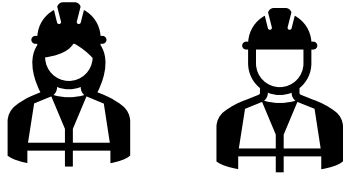
ADS Workers

- Certified to work with asbestos on or below ground surface in NH.

ADS Contractor License

- Allows ADS company to perform removal, consolidation or capping of asbestos waste on or below ground surface in NH.

All certifications and licenses are issued by the Air Resources Division.



Importance of Certification

Certified ADS Workers needed for:

- Preparation of ADS Work Plans
- Supervision of ADS Workers-in-Training
- Oversight and completion of daily work activities when asbestos is disturbed
- Make clearance determination when site work can be resumed by non-ADS personnel
- Preparation of Completion Report

ADS Work Plans

Required for Major Non-Emergency Projects (35 cubic feet or more)

- Must follow Env-SW 2105 including:
 - Use Certified ADS Workers
 - Establish site work zones
 - Access control
 - Prevent airborne release of fibers
 - PPE
 - Air monitoring
 - Decon of personnel and equipment
 - Clearance determination
 - Recordkeeping and reporting

What about Minor Projects (less than 35 ft³)?

Must follow Env-SW 2105, but approved Work Plan not required



- Project-Specific or Generic
- Prepared by Certified ADS Worker
- Stamped by PE when required
- Submitted to DES & local health officer
- Include schedule, reason for work, type of asbestos to be disturbed, sequence of tasks required to complete the work, description of emissions controls, temporary storage and final disposal locations, cap details, scaled site plans
- Must be approved by DES

Requirements for Capping Systems

- Design cover:
 - Using sound engineering practices
 - Meet performance standards to protect against:
 - 100 yr./24 hr. storm
 - 100-year flood
 - seasonal frost action
 - erosion due to wind, water
 - allowed land use(s)
- Typically 24 inches is best for NH
- Geotextile barriers and other engineering systems: reduce depth of cover, provide demarcation warning
- Provide surface treatment for erosion control: plant (shallow-rooted vegetation), pave, place riprap



Questions?

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