

**Communication Challenges
in Responding to a
Slow-Motion Environmental Disaster**
Exposure to Asbestos Contaminated Vermiculite
in Libby, Montana

Tanis Hernandez, MSW, LCSW
Center for Asbestos Related Disease

Vermiculite Mine Near Libby Is World's Largest

By **CLYDE REICHELT**

LIBBY—In the mountains nine miles northeast and 4,000 feet above Libby lies the largest known vermiculite deposit in the United States and the largest vermiculite mining operation in the world.

Montana has large reserves of vermiculite, according to a report

vermiculite here was identified and it was another four years before anything was done about it.

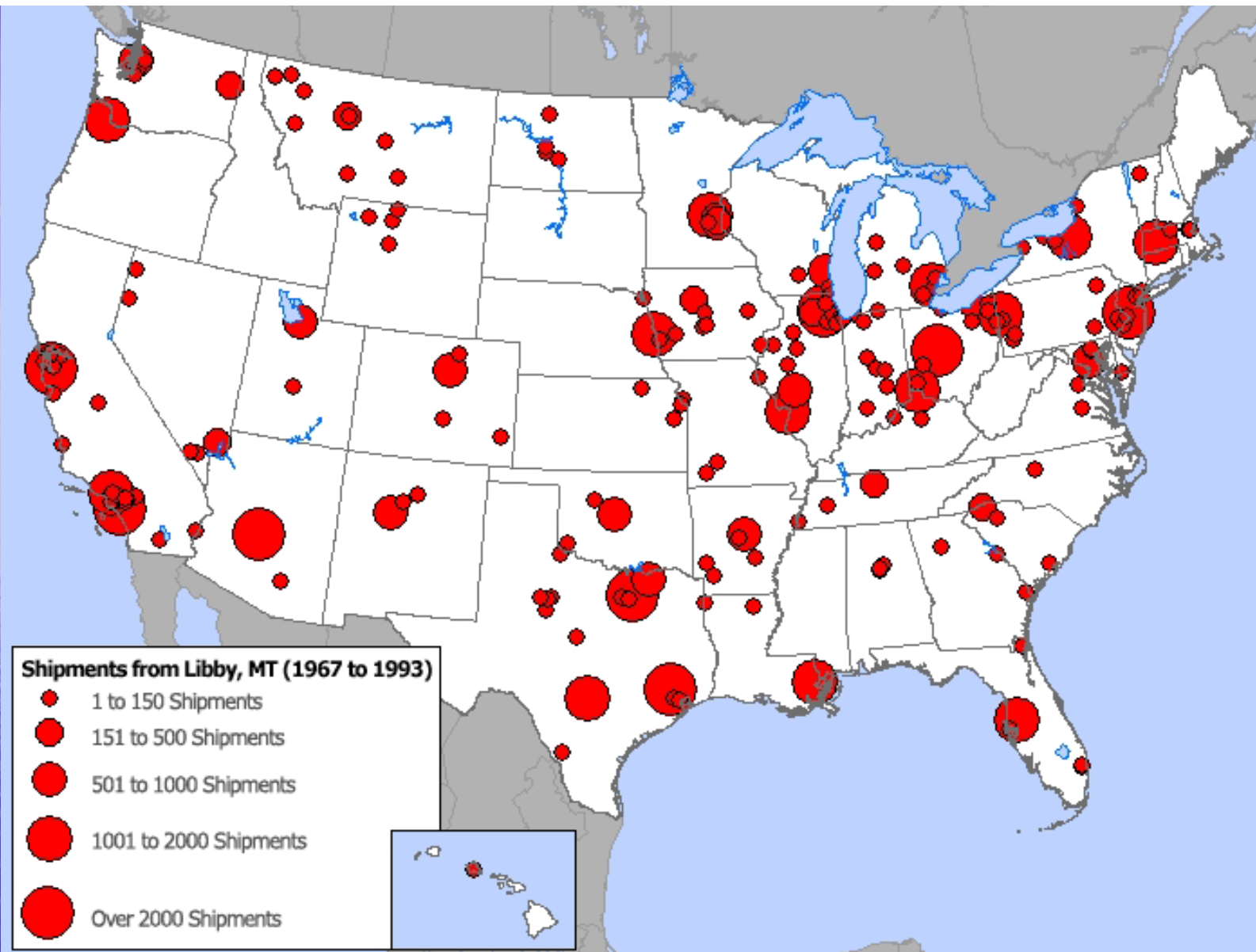
It took an old-timer at the mining game to start the ball rolling.

The late James Keeth, Spokane, then in the business of mining copper, was talking in his office one day with a veteran prospector just down from the moun-





**Up to 35 Million
Homes in America
are insulated with
Zonolite
Attic Insulation**



Communities that had facilities which processed contaminated Libby Vermiculite



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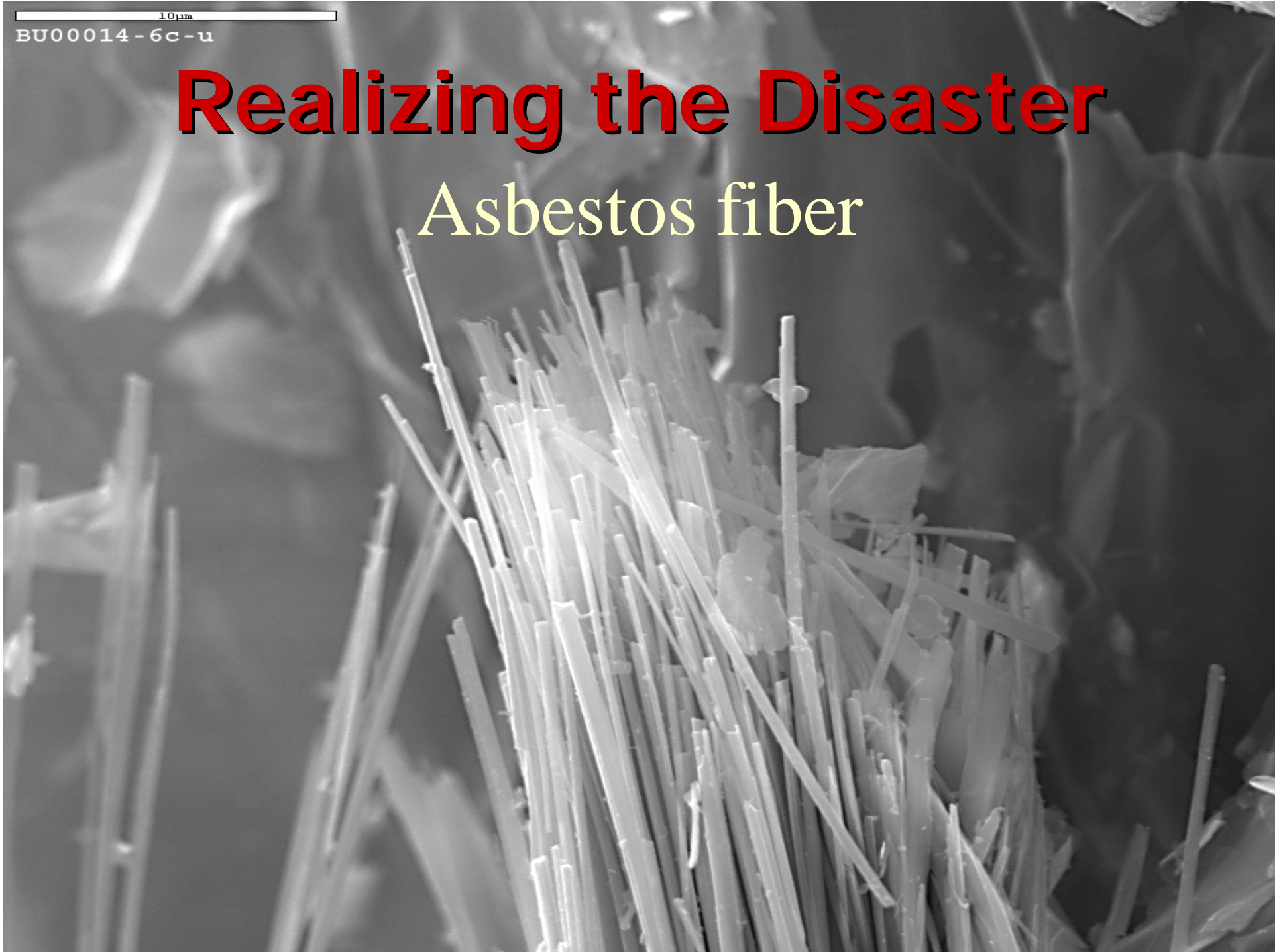
Outside Media Raises Awareness Of Possible Asbestos Exposure Disaster

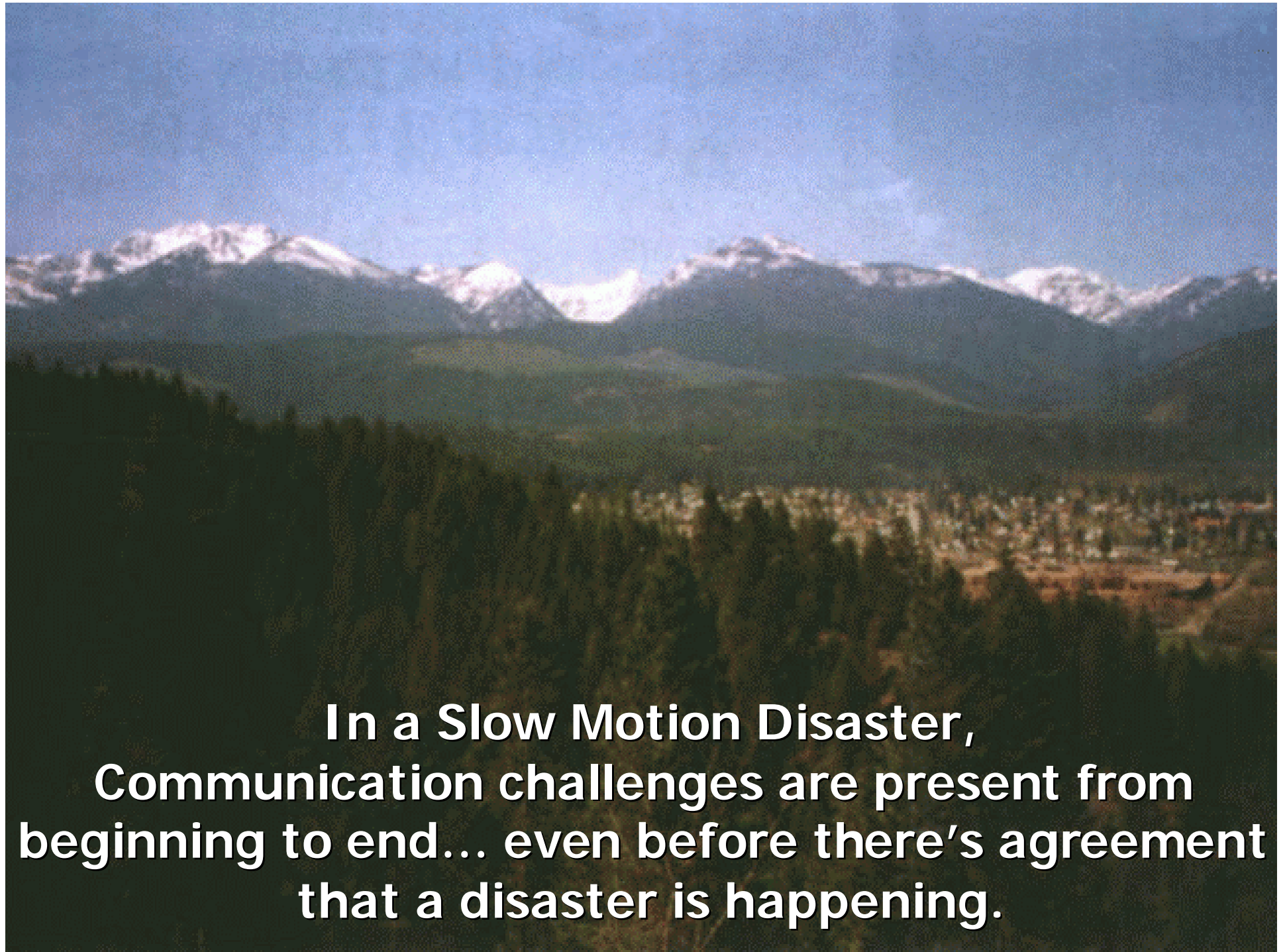


10µm
BU00014-6c-u

Realizing the Disaster

Asbestos fiber





**In a Slow Motion Disaster,
Communication challenges are present from
beginning to end... even before there's agreement
that a disaster is happening.**

Proving the Existence of a Slow Motion Disaster

- Invisible destruction –cannot be perceived by any of the five senses
- Only evidence is the information from some source that it has occurred
- Information becomes the disaster individuals, families, and the community attempt to regain control by defining what is actually occurring

Realization & Acceptance of Disaster

- A diluted subtle onset occurring for years or decades
- Warning is non-existent
- Ambiguity typically surrounds a slow motion disaster, as there is no sudden event that signals its beginning
- Sub-groups of the population may be aware of a potential threat; rumors may occur about the possible threat

Disagreement & Denial

- Disagreements about the genuineness of the threat may persist, even after information confirming the threat has been released by an official agency
- Denial facilitated by:
 - Invisible and illusive nature
 - Subtle onset of disaster & disease
 - Maintains a sense of safety
 - Can lead to avoidance of issues

ATSDR Asbestos Screening

- In 2000-2001, over 7,200 current and former community members received 3-view CXRs and spirometry
- Over 18% of screened participants were identified with possible asbestos induced abnormality (2 out of 3 independent readers agreed)

Exposure & Latency

- Exposure may be: short-term, non-occupational
- Environmental exposure certainly continued up to year 2000
- Exposure occurred across multiple generations
- Health problems manifest 10 to 40 years after initial exposure
- These diseases will continue to surface for a number of decade

Health Impacts

Lung fibrosis (asbestosis)

- Scar tissue developing within the lung
- Infrequently in Libby asbestos disease

Pleural thickening

- Scarring in lining around lungs
- Localized – plaques
- Diffuse – more extensive fibrosis
- Progressive Lung Disease – resulting in death

Health Impacts cont.

Mesothelioma

- A cancer of the pleura, peritoneum, pericardium lining
- Only known causation is asbestos
- Associated with lower levels of asbestos exposure
- 33 cases due to Libby asbestos exposure since 1977
- This rate approaches 100 times expected for population size

Lung Cancer

- Increased rates of lung cancer
- More difficult to determine causal relationships

More than 275 deaths, 1800 CARD patients



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Asbestos Paradigm

Old Beliefs

- Environmental exposure can't cause lung disease
- Scarring is serious only when lung tissue involved
- Pleural plaques are "beauty marks" not an illness

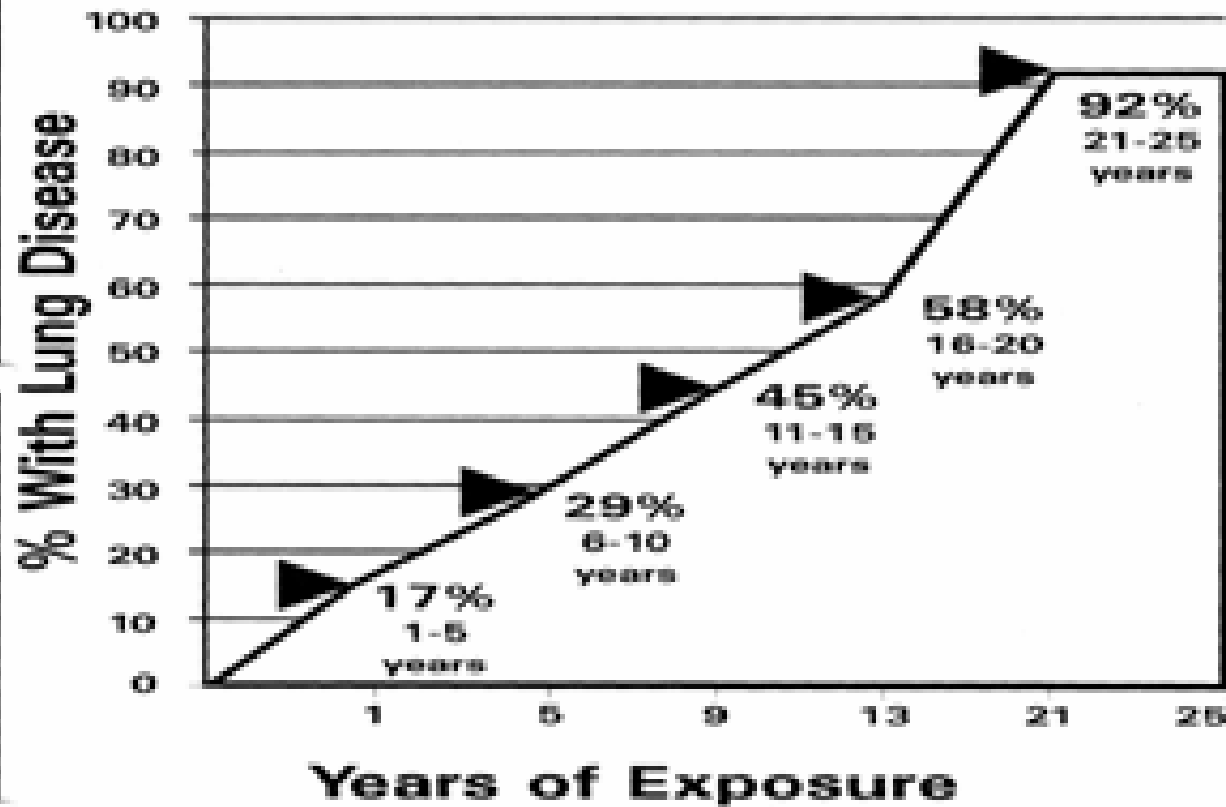
What Has Been Observed

- Environmental asbestos exposure has induced severe, life ending lung disease
- Chest X-rays abnormalities– not asbestosis (actual lung tissue) but thickening of the lining
- Pleural plaques are associated with progressive lung disease presenting as diffuse pleural scarring

Issues of Trust and Betrayal

- Ability to trust: people, their past assumptions, and the world in general has been damaged
- Trusting someone “new” or “related to the issue” or an “outsider” can be difficult

Workers with Disease - 1969



Per Exh. 130.4 Grace Headquarters In-house Study

CASO
0-150



The Pervasive Nature Of Communication Challenges

Slow Motion Factors that Impact Communication

- Information as initial, and ongoing, stressor
- The invisible nature of the disaster
- Confusion and frustration from trying to understand very technical information
- Long term nature of consequences
- Unpredictable consequences and impacts
- Feelings of loss of control over the present and future

Social Stresses that Impact Communication

- Media siege
- Community conflict
- Mistrust of officials and media
- Cultural pressure
- Political and legal controversies
- Social alienation and social stigmas
- Economic and family stresses
- Destruction of cultural traditions

Communication Challenges from Missing Phases in Slow Motion Disasters

1. **Warning/Threat:** ambiguous, is disaster occurring?
2. **Impact:** disagreement, community conflict
3. **Rescue/Heroic: Not really present**
Factions develop in efforts to define the problem and determine what/if any action should be taken
4. **Remedy/Honeymoon: Not really present**
People feel alone, divided, and frustrated. They are not hopeful for the future at this point as they can't envision things ever returning to "normal"

Communication Challenges from Missing Phases in Slow Motion Disasters cont.

5. Inventory

6. Disillusionment

7. Recovery: Not really present

Can't return to "normal" and recovery for them means learning to successfully adapt continuously to the lifelong disaster impacts

The missing phases are the ones that elicit mutual support, energy, and hope for the future. Thus, their absence increases difficulties in addressing and coping with the disaster.

Different Timelines

- Different Individuals, Families and Subgroups
- Different Exposures, Latency Periods and Disease Progression
- Different Communities

Developing Infrastructure

CARD:

**Healthcare, Psycho-Social Services
Research, Outreach, Education, Advocacy**

ARD NET:

Community Network & Service Coordination

EPA:

**Community Clean Up
Community Involvement (TAG, CAG)**