

# Welcome

## Sampling Results for Libby Schools

*Libby Little Theater*

*February 8, 2010*

*7:00 to 9:00 pm*

**Libby Asbestos Site, EPA Region 8, Libby, MT**



# Presentation Topics

- Overview of Sampling
- Overview of the Results
- Action Items



# Libby Public School Locations with ABS Sampling Locations January 2010

**Kootenai Valley Head Start  
(Formerly Plummer Elementary School)**

**Libby High School**

**Libby Elementary School  
(Formerly Asa Wood Elementary School)**

**Libby Administration Building**

**Libby Middle School**

**Libby Parcels**

-  Libby Parcels
-  ABS Sampled



# Site Characterization

- Sampling: soil and air
  - Air samples
    - Indoor
    - ABS
  - Surface soils
  - Ambient air

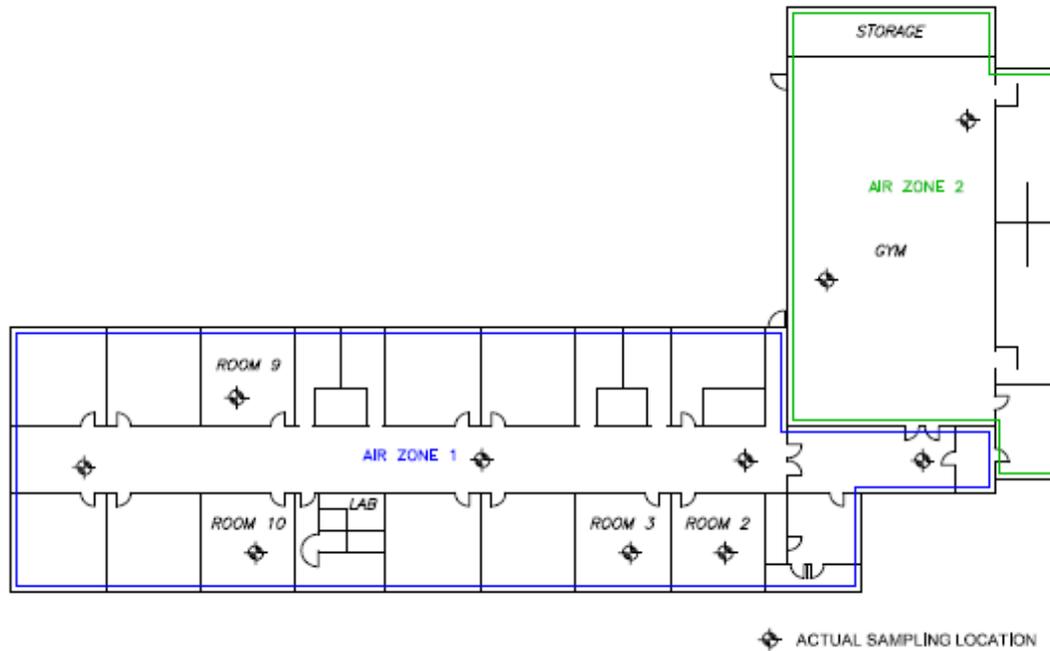


# Indoor Air Samples

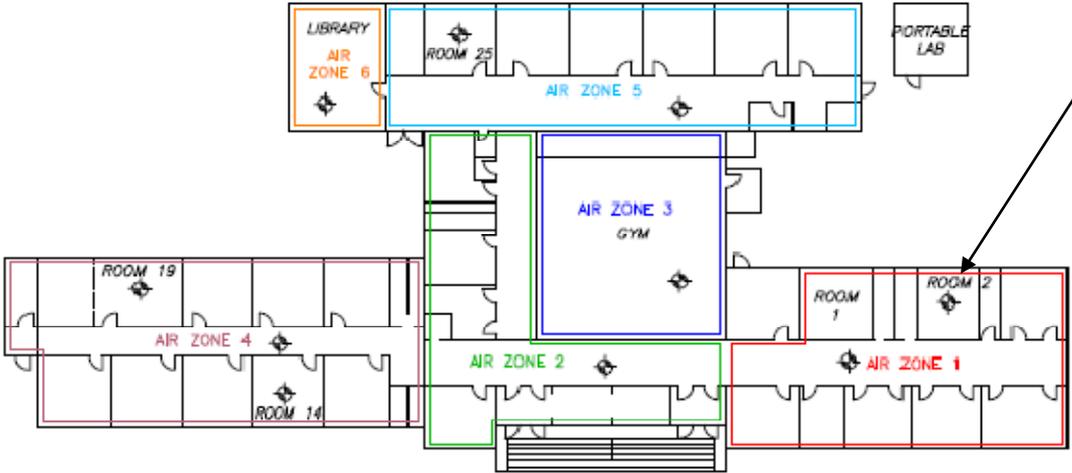
- All samples are stationary breathing zone samples
- Rooms sampled
  - Four classrooms
  - Lunch room/cafeteria
  - Gymnasium
  - Four hallways
- Samples were two-day composite samples
- Analyzed by TEM method ISO 10312
- Target detection limit was 0.0006 structures/cubic centimeter (s/cc)



# Kootenai Valley Head Start



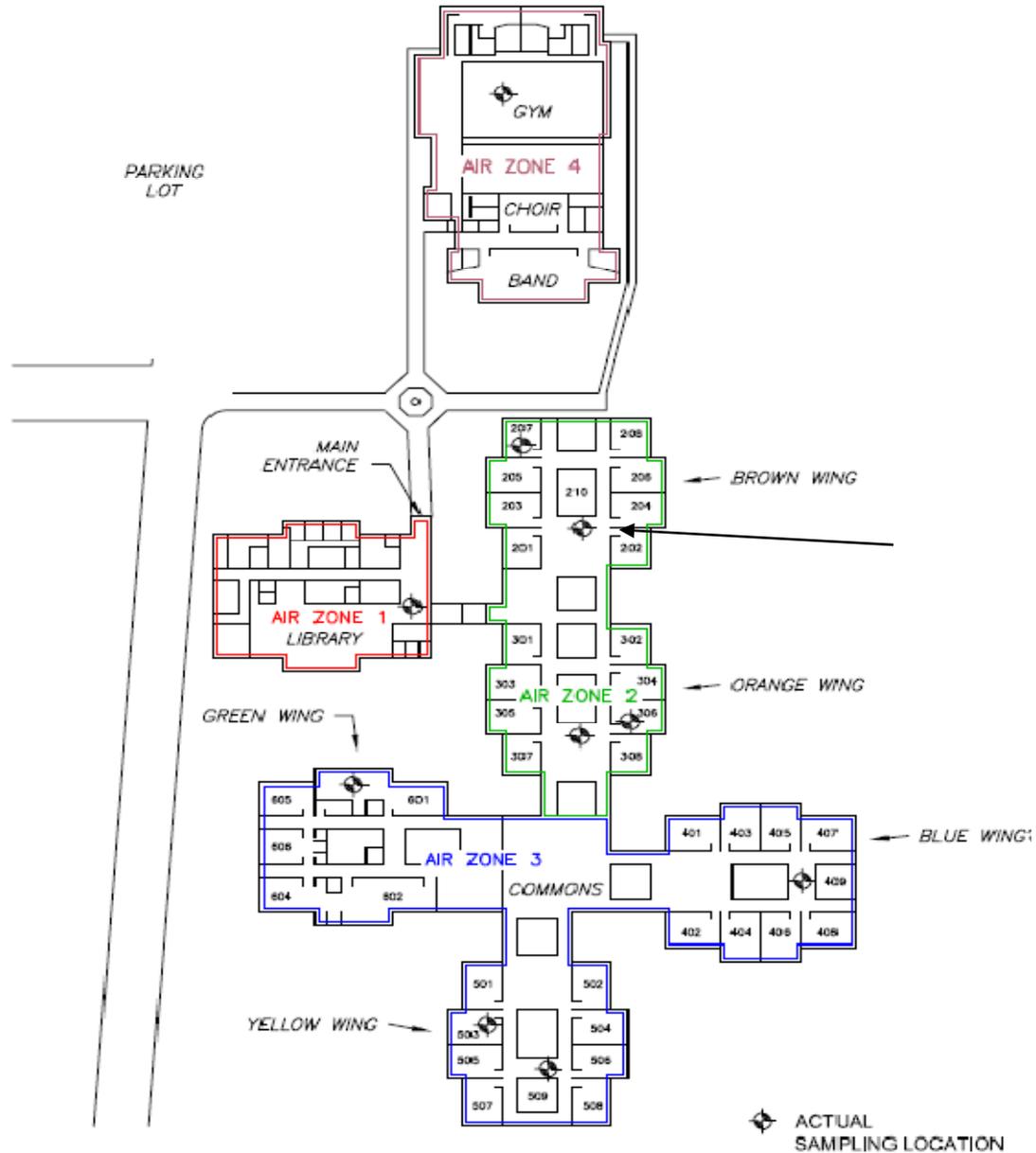
# Libby Elementary School



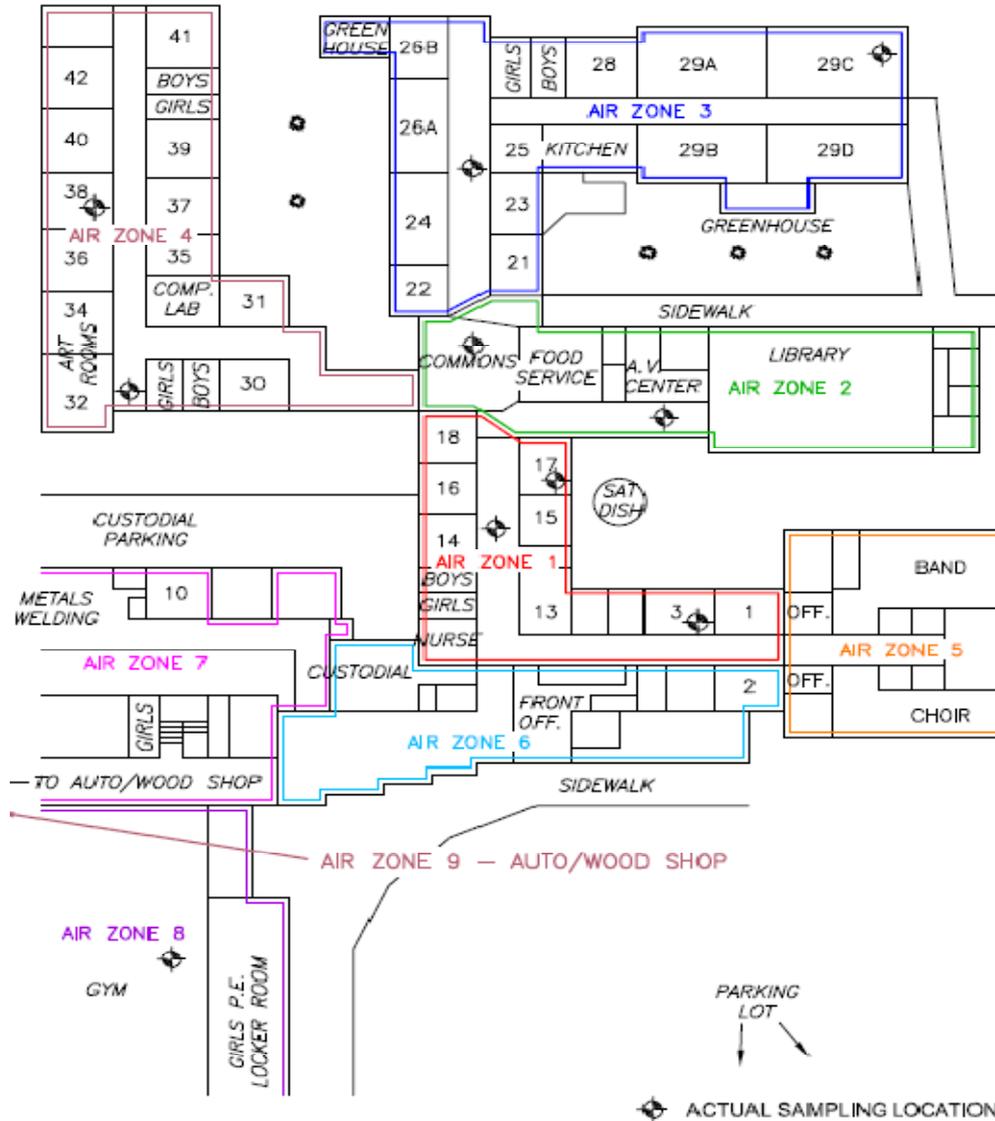
A1 SAMPLING LOCATION



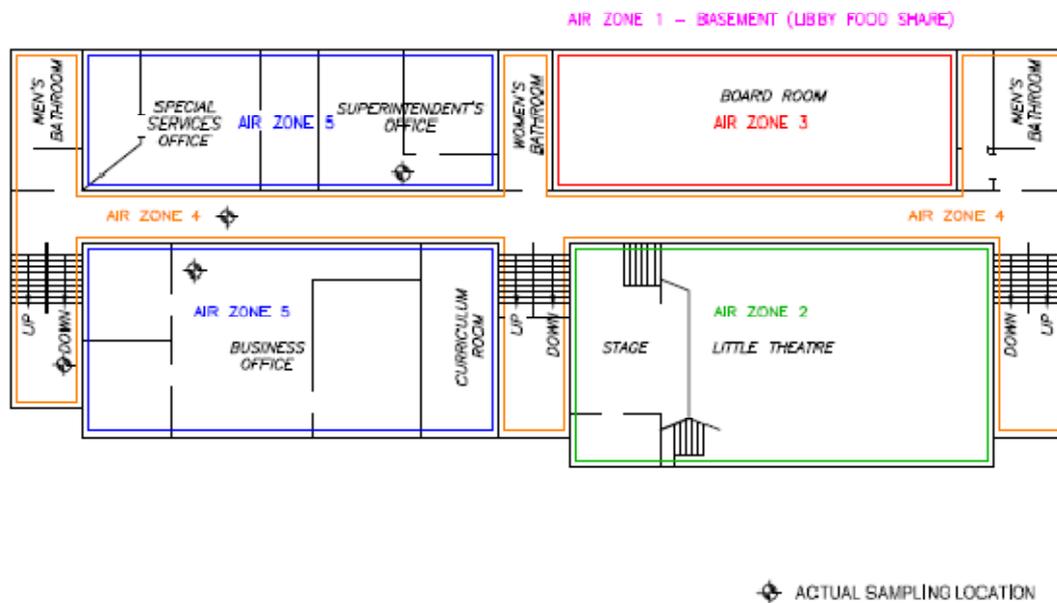
# Libby Middle School



# Libby High School



# Libby Administration Building



# Summary of Indoor Air Sampling

- 51 samples taken at 5 schools
- 49 samples were non-detect for LA fibers
- 2 samples were detections
  - Libby Elementary School (class room) @ 0.00059 total LA s/cc\*
  - Libby Middle School (hallway) @ 0.00051 total LA s/cc

\*s/cc = structures per cubic centimeter



# Outdoor Activity-Based Sampling

- Student activities
  - Playing soccer, football, baseball, & Frisbee®
  - Swinging on swing set
  - Play field running on grounds
- Adult activities
  - Grounds keepers digging, raking, sweeping
  - Grounds keepers mowing lawns

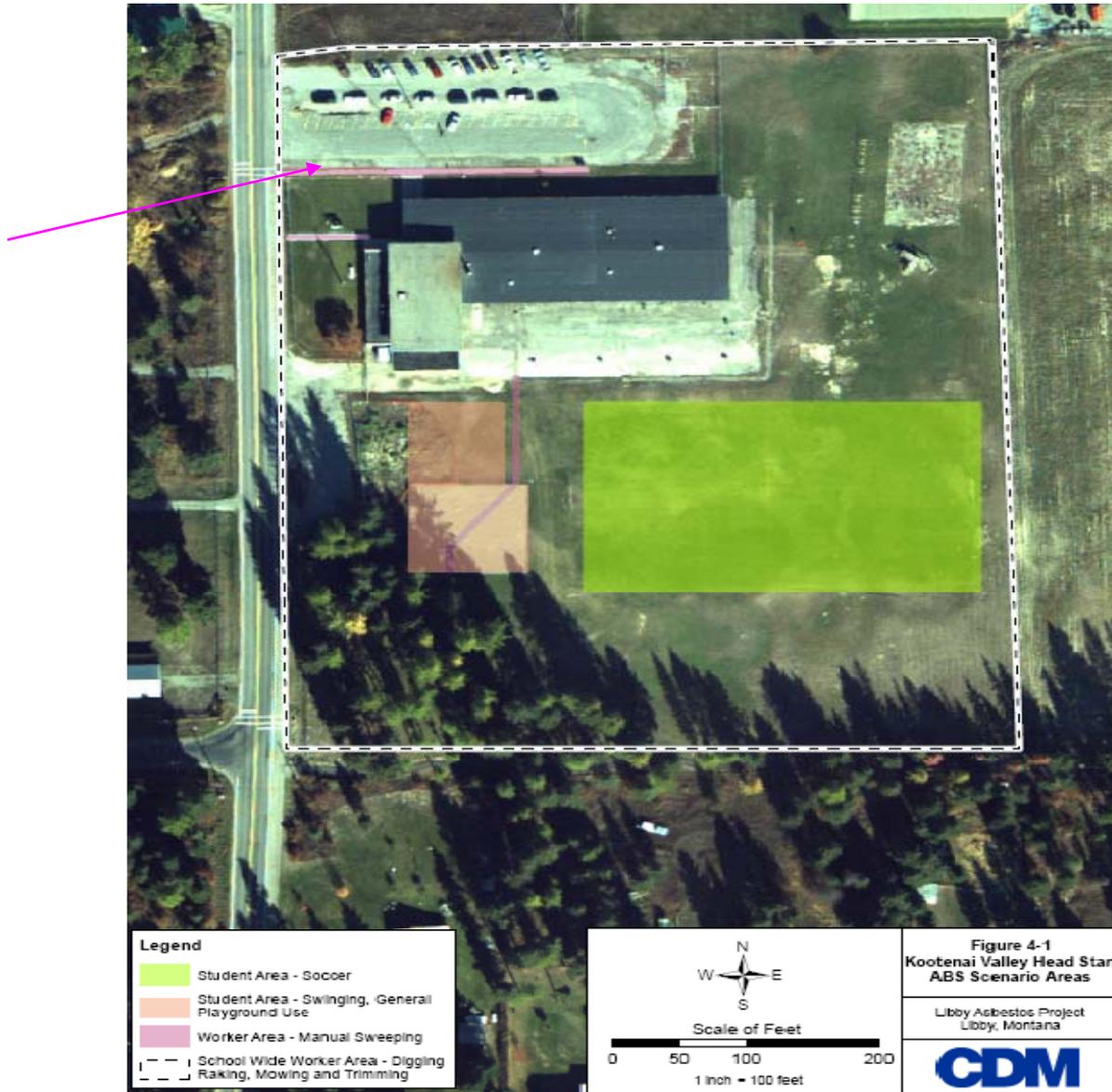


# ABS Samples

- Breathing zone air samples collected on filters
- Analyzed by TEM Method *ISO 10312*
- Target analytical detection limit 0.003 LA cc<sup>-1</sup>
- 63 samples taken from 5 schools
- 5 detections at 3 schools – 3 student activities, 2 groundskeeper activities



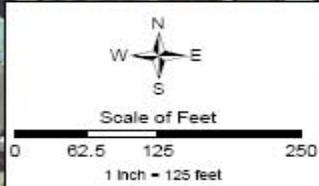
# Kootenai Valley Head Start



# Libby Elementary School



Legend	
	Student Area - Soccer
	Student Area - Swinging, General Playground Use
	Student Area - Walking Path
	Worker Area - Manual Sweeping
	School Wide Worker Area - Digging, Raking, Mowing and Trimming



**Figure 4-2**  
**Libby Elementary School**  
**ABS Scenario Areas**

Libby Asbestos Project  
Libby, Montana



# Libby Middle School



## Legend

-  Student Area - Soccer, Swinging, General Playground Use
-  Student Area - Soccer, Baseball, Frisbee
-  Worker Area - Manual Sweeping
-  School Wide Worker Area - Digging, Raking and Mowing

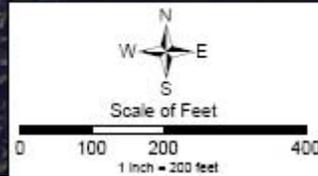
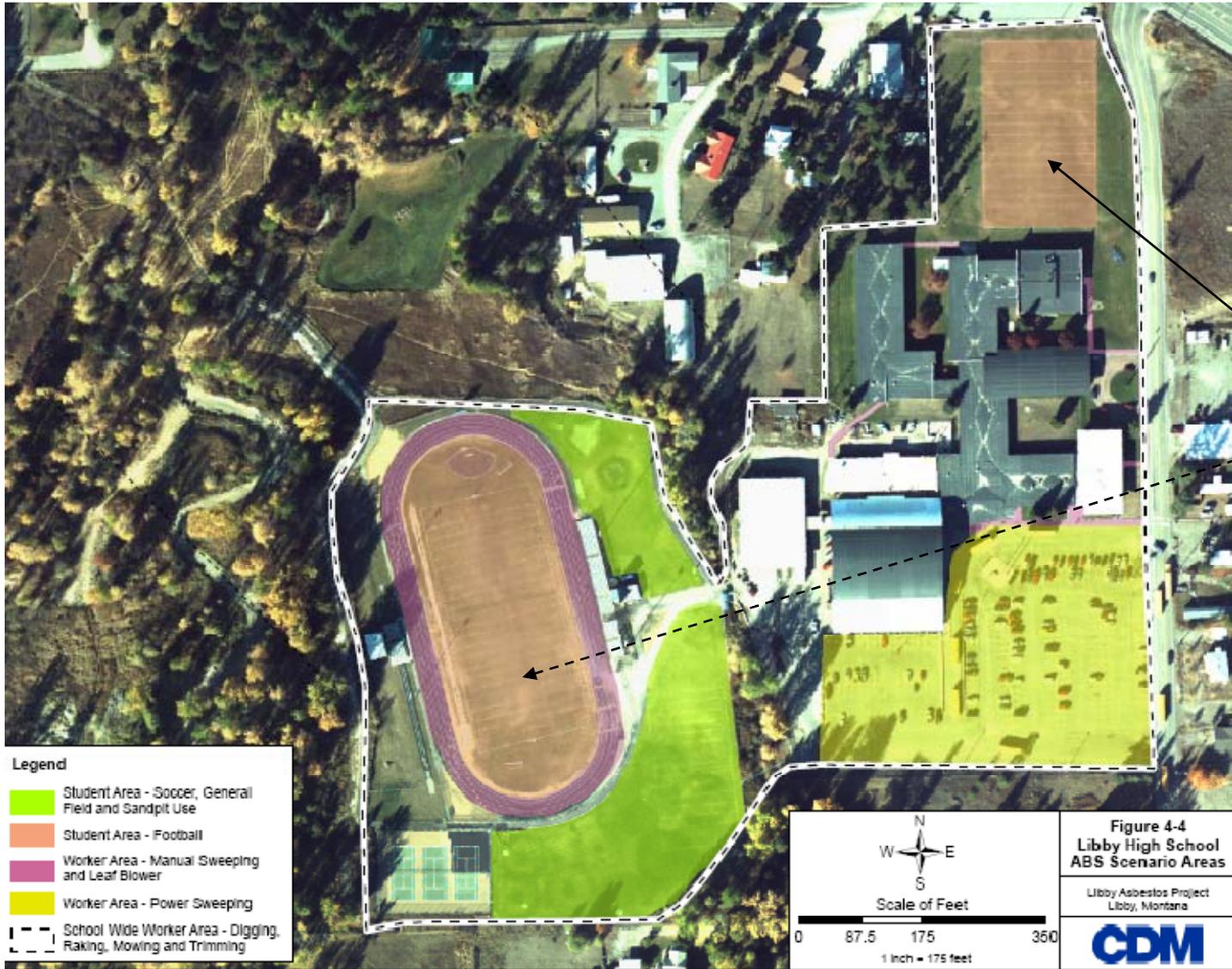


Figure 4-3  
Libby Middle School  
ABS Scenario Areas

Libby Asbestos Project  
Libby, Montana



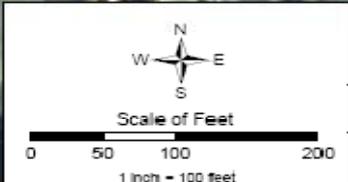
# Libby High School



# Libby Administration Building



Legend	
	Student Area - Swinging, General Playground Use
	Worker Area - Manual Sweeping
	Worker Area - Power Sweeping
	School Wide Worker Area - Digging, Raking, Mowing and Trimming



**Figure 4-5**  
**Libby Administration Building**  
**ABS Scenario Areas**  
Libby Asbestos Project:  
Libby, Montana



# Summary of ABS Sampling

- Kootenai Valley Head Start; Grounds keeper, Mowing/Edging scenario, 0.0022 LA s/cc (detection limit 0.0022 LA s/cc)
- Libby Elementary School; Student, Swinging scenario, 0.039 LA s/cc (detection limit 0.0389 LA s/cc)
- Libby Middle School; Student, Soccer/Swing scenario. 0.011 (detection limit 0.0107 LA s/cc)
- Libby Middle School; Grounds keeper, Digging/raking/sweeping Scenario, 0.0028 LA s/cc (detection limit 0.0028 LA s/cc)\*
- Libby High School; Student, Football scenario, 0.0025 LA s/cc (detection limit 0.0025 LA s/cc)

\*No PCME fibers present



# Soil Samples

- Total of 41 composite samples taken at 5 schools (correspond to ABS sampling areas)
- Scored for visible vermiculite and PLM-VE
  - 6 samples had visible scores
  - All 5 locations had PLM-VE detections



# Soil Sample Summary

- Kootenai Valley Head Start
  - 1 visible detection
  - 7 PLM-VE analyses: 6 trace, 1 non-detect
- Libby Elementary School
  - 2 visible detections
  - 9 PLM-VE analyses; 5 trace. 4 non-detect
- Libby Middle School
  - No visible detections
  - 9 PLM-VE analyses; 6 trace; 3 non-detect



# Soil Sample Summary (cont'd)

- Libby High School
  - 2 visible detections
  - 9 PLM-VE analyses; 9 trace, 0 non-detect
- Libby Administration Building
  - 1 visible detection
  - 7 PLM-VE analyses: 5 trace, 2 non-detect



# Soil Samples – Yesterday and Today

School	2001 Levels	2009 Levels
Kootenai Valley Head Start	3 > 1% NIOSH 9002 6 < 1% NIOSH 9002 40 ND by PLM-VE	1 Visible 6 trace by PLM-VE 1 ND by PLM-VE
Libby Elementary School	2 < 1 % NIOSH 9002 3 trace by PLM-VE 26 ND PLM-VE	2 Visible 5 trace by PLM-VE 4 ND by PLM-VE
Libby Middle School	13 > 1% by PLM-VE 29 trace by NIOSH 9002 109 ND PLM-VE	No Visible 6 trace by PLM-VE 3 ND by PLM-VE
Libby High School	8 > 1% By NIOSH 9002 51 < 1% by NIOSH 9002 18 trace by PLM-VE 1 < 1% by PLM-VE	2 Visible 9 trace by PLM-VE
Libby School Administration Building	All ND	1 Visible 5 trace by PLM-VE 2 ND by PLM-VE



# Soil Samples – Yesterday and Today (cont'd)

- Progressed from % level detections in 2001 to visible and trace level detections in 2009
- Changes in analytical techniques
  - 3 measurement techniques in 2001
  - 2 measurement techniques in 2009
- Changes in sample coverage
  - Discreet samples in 2001 – limited area
  - Composite samples in 2009 – greater areal coverage

# Ambient Air Samples

Date of Sampling	Location	Ambient Air Concentration
Pre-1990	City Center	0.59 s/cc
2002	Lincoln County Courthouse Annex	0.00010 to 0.00086 s/cc
2008	Average of 6 community-wide ambient air monitors	0.0000056 s/cc

# What does this mean to me – a parent?

- There are detections of LA at the schools in Libby. Do I keep my child home from school?

**No**

- Levels that were detected are within acceptable exposure levels as used at other Superfund sites
- We think these small indoor detections are due to “track-in” rather than anything structural at the schools



# What does this mean to me – a parent?

- There may be sporadic detections indoors at schools due to “track-in”
- Outdoor levels of LA have been significantly reduced
- Air quality has been significantly improved
- There continues to be a man-made residual of LA in the Libby Valley
- It comes from the operations of the mine, historical use of vermiculite by citizens, and movement of fibers by air, water, and “track-in”



# What does this mean to me – a parent?

- We can expect sporadic detections of fibers indoors and outdoors
- Our (EPA's) aim is to continue to reduce human exposures
- It may not be possible to clean all of the Libby environment to non-detect for LA

# Actions Items

- Work with the school board to address and schedule future actions
- Continue to keep the community involved and informed
- EPA will conduct cleanups consistent with current criteria
- EPA will continue to monitor schools – analyze the data and make informed decisions as indicated



# Action Items (cont'd)

- Continue to make decisions that are protective of public health and the environment
- Work with school district to minimize “track-in” which is the likely source of indoor air “hits”
- School sampling information will be integrated into the OU4 risk assessment as part of the multiple pathway/cumulative risk analysis
- Other???

