STATISTICS FOR MINERS WORKING IN MINGO COUNTY, WEST VIRGINIA

SURVEY DATES	SURVEY LOCATIONS
09/21/2005 thru 09/22/2005	NATIONAL MINE RESCUE CONFERENCE, LOUISVILLE, KENTUCKY
08/14/2006 thru 08/25/2006	PIKE COUNTY, KENTUCKY
08/28/2007 thru 08/31/2007	MINE RESCUE CONTEST, NASHVILLE, TENNESSEE
09/12/2007 thru 09/14/2007	COAL SHOW, BLUEFIELD, WEST VIRIGINA
04/06/2008 thru 04/19/2008	FAYETTE, NICHOLAS, RANDOLPH, UPSHUR AND WEBSTER COUNTIES, WEST VIRGINIA
05/28/2008 thru 06/07/2008	BOONE COUNTY, WEST VIRGINIA
06/16/2008 thru 06/27/2008	LOGAN, MINGO AND WAYNE COUNTIES, WEST VIRGINIA

DEMOGRAPHICS

Survey Statistics		5-Year Statistics	
		Estimated	
Estimated 2008 employment:	720	2004 - 2008 employment	920
Number of miners examined:	86	5-YEAR miners examined:	105
Survey participation rate:	12%	5-year participation rate:	11%

	N	Mean	Range
Tenure:	85	21	1 - 39
Age:	86	45	21 - 65
Tenure at the Face:	80	19	1 - 39

PREVALENCE OF DISEASE: n=86

Pneumoconiosis:	6 (7%)	PMF:	1 (1%)	Advanced:	1 (1%)

OBSERVED AND EXPECTED PREVALENCE OF DISEASE FOR WORKERS WITH 15 OR MORE TENURE YEARS AND THE AVERAGE LEVEL OF DUST FOR THE COUNTIES OF 0.851 MG/M3: n=57

Observed:					
Pneumoconiosis:	6 (11%)	PMF:	1 (2%)	Advanced:	1 (2%)
Expected:					
Pneumoconiosis:	5 (9%)	PMF:	3 (5%)	Advanced:	3 (5%)

DISTRIBUTION OF RADIOGRAPHIC FINDINGS: n=86

Profusion of Small Opacities		Large Opacities		Symbols	
0/0:	74 (86%)	O:	85 (99%)	ax:	1 (1%)
0/1:	6 (7%)	A:	1 (1%)		
1/0:	1 (1%)	B:	0 (0%)		
1/1:	2 (2%)	C:	0 (0%)		
1/2:	1 (1%)				
2/1:	2 (2%)				
2/2:	0 (0%)				
2/3:	0 (0%)				
3/2:	0 (0%)				
3/3:	0 (0%)				
3/+:	0 (0%)				

PREVALENCE OF CLINICAL FINDINGS: n=83

Chronic cough:	49 (59%)	Chest tightness:	45 (54%)
Phlegm:	45 (54%)	Chronic bronchitis:	5 (6%)
Wheezing:	42 (51%)	Emphysema:	5 (6%)
Attacks of wheezing:	38 (46%)	Pneumonia:	17 (20%)
Dyspnea (on level):	50 (60%)	Asthma:	4 (5%)
Dyspnea (up hill):	69 (83%)	Tuberculosis:	0 (0%)

Smoking status: n=83

Never Smoked:	Former Smoker:	Current Smoker:
39 (47%)	16 (19%)	28 (34%)

SPIROMETRY RESULTS: n=86

Obstructive:	5 (6%)	Restrictive:	9 (10%)	Mixed:	1 (1%)

METHODS

DEMOGRAPHICS

SURVEY PARTICIPATION RATE: count of the number of miners with a valid x-ray during the survey period (NUMBER OF MINERS EXAMINED) divided by the count of the names on the most recent mine rosters submitted to NIOSH by the mine operators (ESTIMATED CURRENT EMPLOYMENT).

5-YEAR PARTICIPATION RATE: count of the number miners with a valid x-ray during the 5-year period preceding the date of the end of the survey (5-YEAR MINERS EXAMINED) divided by the count of the names on the mine rosters that accompanied the mine plans that were submitted to NIOSH by the miner operators during the 5-year period preceding the date of the end of the survey (ESTIMATED 5-YEAR EMPLOYMENT).

TENURE - MEAN: summation of the reported years in various underground mining occupations divided by count of participating miners with a completed work history (N).

AGE - MEAN: summation of the calculated age at time of the x-ray divided by count of participating miners who provided their date of birth (N).

TENURE AT THE FACE - MEAN: summation of the reported years of working at the face divided by count of participating miners who reported working at the face (N).

PREVALENCE OF DISEASE

PNEUMOCONIOSIS: number of x-rays with a final determination (consensus based upon NIOSH procedures) of the International Labour Office (ILO) small opacity profusion category 1/0 or higher or with the presence of large opacities, divided by the number of participating miners with a valid x-ray.

PMF: number of x-rays with a final determination of ILO large opacity category "A", "B", or "C" divided by the number of participating miners with a valid x-ray.

ADVANCED: number of x-rays with a final determination of ILO small opacity profusion category 2/1 or higher and presence of symbol "ax" (coalescence of small opacities) or ILO large opacity category of "A", "B", or "C" divided by the number of participating miners with a valid x-ray.

EXPECTED PREVALENCE

PNEUMOCONIOSIS, PMF & ADVANCED: count and percent of expected cases of pneumoconiosis, PMF, and advanced disease for a given mean respirable dust level (concentration) and for the specific type of coal in the region, calculated according to Attfield MD, Morring K. Am Ind Hyg Assoc J 1992*: 53:486-492.

AVERAGE DUST LEVEL: mean of the respirable dust concentrations for occupational samples collected by MSHA coal mine inspectors from 1975-2008.

METHODS (continued)

DISTRIBUTION OF RADIOGRAPHIC FINDINGS

PROFUSION OF SMALL OPACITIES, LARGE OPACITIES & SYMBOLS: count and percent of the x-rays using the final determination of the ILO small opacity, the final determination of the ILO large opacity, and symbol "ax" (coalescence of small opacities).

PREVALENCE OF CLINICAL FINDINGS

SELF-REPORTED: count and percent of self-reported symptoms and/or medical conditions based on the participating miners who completed the health questionnaire survey.

SMOKING STATUS

NEVER SMOKER, FORMER SMOKER, & CURRENT SMOKER: count and percent of participating miners who completed the health questionnaire survey miners reporting each smoking history.

SPIROMETRY RESULTS

OBSTRUCTIVE, RESTRICTIVE, & MIXED: number and percent of miners who participated in the spirometry testing and whose results showed one of the following categories of respiratory impairment using forced expiratory volume in one second (FEV1) and forced vital capacity (FVC) ratio:

OBSTRUCTIVE - FEV1/FVC < lower limit of normal (LLN) and FVC >= LLN
RESTRICTIVE - FEV1/FVC > LLN and FVC < LLN
MIXED - FEV1/FVC < LLN and FVC < LLN