



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL

November 30, 1978

NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH — ALOSH
944 CHESTNUT RIDGE ROAD
MORGANTOWN, WEST VIRGINIA 26505

Mr. M.W. Glenn, Jr.
P. O. Box Drawer F
Chatsworth, Georgia 30705

Dear Mr. Glenn:

Enclosed are preliminary tables of the medical data collected earlier this year. I have included the data from your individual mine and mill, as well as combined results from Texas. We will be doing a more extensive and detailed analysis of the data, including the results of before and after shift breathing tests, and comparison of pulmonary function, symptoms, and x-ray findings with control groups.

Pneumoconiosis is Grade 1 or greater of rounded or irregular opacities and pleural thickening is grade 1 and 2 as read by three radiologists using the standard ILO/UC films for pneumoconiosis. FEV₁ is Forced Expiratory Flow in one second, FVC is Forced Vital Capacity, and FEF₅₀ is Forced Expiratory Flow at 50% of FVC. Breathing obstruction is defined as an FEV₁/FVC ratio less than 70%. Cough is defined as answering yes to the question: "Do you usually cough first thing in the morning and/or during the day in the winter for as much as three months each year?" Bronchitis is defined as answering yes to the question: "Do you usually bring up any phlegm from your chest first thing in the morning in the winter and/or during the day in the winter?" Mild shortness of breath is defined as answering yes to the question: "Are you troubled by shortness of breath when hurrying on level ground or walking up a slight hill?" Moderate shortness of breath as answering yes to the question: "Do you get short of breath walking with other people of your own age on level ground?" Severe shortness of breath as answering yes to the question: "Do you have to stop for breath when walking at your own pace on level ground?"

If you have any questions, feel free to call me at (304) 599-7476.

Sincerely,

John F. Gamble, Ph.D., Chief,
Epidemiology & Statistics Section

Enclosure

cc: Mack Minyard
Superintendent, Pioneer
P.O. Box 121
Van Horn, Texas 79855

PLAINTIFF'S
EXHIBIT
WCD-176

PERCENT & NUMBER OF WORKERS WITH PNEUMOCONIOSIS FOR 23 WORKERS BY AGE, SMOKING STATUS, & EXPOSURE

PIONEER MINE

AIC EXPOSURE (YEARS)	<20			20-29			30-39			AGE 40-49			50-59			>=60			TOTAL		
	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S
<=4																			0	0	0
Category	1		1	1															2	1	1
5-9			0	0	0	0			0										0	0	0
			1	2	1	2			1										2	1	4
10-14						100		0	0										0	50	
						1		1	1										1	2	
15-19						0			0			0							0	0	
						1						1							1	2	
20-24									0			0								0	
									1			1								2	
25-29																					
>=30												0		0		0			0		
												1		2		1			4		
TOTAL	0		0	0	2	25		0	0		0	0	0		0	0	0	0	0	0	0
	1		2	2	2	4		1	3		3	1	2		3	2	6	15	15	6	15

• EX-SMOKER
• NON-SMOKER
• SMOKER

CELLS W/18: REPORTEDLY DIAGNOSED PNEUMOCONIOSIS
NUMBER DIAGNOSED PNEUMOCONIOSIS
NUMBER IN CATEGORY

P_N

3 films

grade 1 grade 2 grade 3

progressive
massive fibrosis

14.0% 14.0% 14.0%

0% PN 0% PN 7% PN

PIONEER MINE

WCD 001612

PERCENT & NUMBER OF WORKERS WITH MASSIVE FIBROSIS FOR 23 WORKERS BY AGE, SMOKING STATUS, & EXPOSURE

PIONEER MINE

TALC EXPOSURE (YEARS)	AGE																				TOTAL			
	<20				20-29				30-39				40-49				50-59				>=60			
	P	N	S	F	P	N	S	F	P	N	S	F	P	N	S	F	P	N	S	F	P	N	S	F
<=4	0		0	0	0																0	0	0	
	1		1	1	1																2	1	1	
5-9			0	0	0	0					0										0	0	0	
			1	2	1	2					1										2	1	4	
10-14									0		0											0	0	
								1		1	1											1	2	
15-19								0					0		0							0	0	
								1					1		1							1	2	
20-24											0				0									0
										1				1										2
25-29																								
>=30													0		0		0		0		0		0	
													1		2				1				0	
TOTAL	0		0	0	0	0		0	0		0		0		0		0		0		0	0	0	
	1		2	3	2	0		1	3		3		1		2		1		0		0	0	15	

S=EX-SMOKER

N=NON-SMOKER

F=SMOKER

CELLS KEYS PERCENT DIAGNOSED MASSIVE FIBROSIS

NUMBER DIAGNOSED MASSIVE FIBROSIS

NUMBER IN CATEGORY

Handwritten signatures and initials:
Morgan
Coal
Signature

YEAR PEF50 FOR 25 WORKERS BY AGE, AND SMOKING STATUS, AND EXPOSURE

PIONEER MINE

WALC EXPOSURE (YEARS)	<20			20-29			30-39			AGE 40-49			50-59			>=60			TOTAL		
	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S
<4	520	---	---	447	453	473	---	---	---	---	---	---	---	---	---	---	---	---	686	473	447
	1			1	1	1													2	1	1
5-9	---	---	---	452	492	568	515	---	---	713	---	---	---	---	---	---	---	---	482	568	549
				1	3	1	2			1									5	1	2
10-14	---	---	---	---	---	---	363	---	---	280	360	---	---	---	---	---	---	---	---	280	361
							1			1	1									1	2
15-19	---	---	---	---	---	---	561	---	---	---	---	489	315	553	---	---	---	---	315	563	525
							1					1	1	1					1	1	2
20-24	---	---	---	---	---	---	---	---	---	402	---	---	341	---	---	---	---	---	---	---	371
										1			1								2
25-29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
>=30	---	---	---	---	---	---	---	---	---	---	---	291	---	---	540	---	---	228	---	---	399
												1			2			1			4
TOTAL	520	---	---	649	575	520	406	---	---	280	491	---	---	373	315	563	540	---	228	623	471
	1			2	4	2	4			1	3			1	1	1	2		1	6	4

PEF50 IS IN CENTILITERS PPR SECOND

E=EX-SMOKER

N=NON-SMOKER

S=SMOKER

CELLS KEY: MEAN PEF50
NUMBER IN CATEGORY

*Summary
function
(Smoking waves)
has effect*

MEAN FEV1 FOR 25 WORKERS BY AGE, AND SMOKING STATUS, AND EXPOSURE

PIONEER MINE

TALC EXPOSURE (YEARS)	<20			20-29			30-39			AGE 40-49			50-59			>=60			TOTAL		
	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S
<=9	531		352	451	300														491	370	352
	1		1	1	1														2	1	1
3-9			431	378	388	471			475										378	388	454
			1	3	1	2			1										3	1	2
10-14						389		461	305										461	347	
						1		1	1										1	2	
15-19						382						277	228	422					228	422	329
						1						1	1	1					1	1	2
20-29									365		340										339
									1		1										2
25-29																					
>=30											334		293		299				305		
											1		2		1				8		
TOTAL	531		376	396	344	428		461	381		308	228	422	293		299	390	392	361		
			2	4	2	4		1	2		2	1	1	2		1	6	4	12		

FEV1 IS IN CENTILITERS PER SECOND

E=EX-SMOKER

N=NON-SMOKER

S=SMOKER

CELLS KEY: MEAN FEV1
NUMBER IN CATEGORY

MEAN PVC FOR 25 WORKERS BY AGE, AND SMOKING STATUS, AND EXPOSURE

PLOYER NINE

ALC EXPOSURE (YEARS)	<20			20-29			30-39			AGE 40-49			50-59			>=60			TOTAL		
	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S
<=4	660			423	494	335													572	335	423
	1			1	1	1													2	1	1
5-9				474	465	463	578			582									465	463	553
				1	3	1	2			1									3	1	4
10-14							505			567	372								567		438
							1			1	1								1		2
15-19							449					323	269	510					269	510	366
							1					1	1	1					1	1	2
20-24										464		390									427
										1		1									2
25-29																					
>=30												454		356					449		404
												1		2					1		4
TOTAL	650			449	470	399	527			567	372		389	269	510	356			449	468	488
	1			2	8	2	4			1	2		2	1	1	2			1	6	5

VC IS IN CENTILITERS

=EX-SMOKER

=NON-SMOKER

=SMOKER

CELLS KEY: MEAN PVC
NUMBER IN CATEGORY

PERCENT & NUMBER OF WORKERS WITH BREATHING OBSTRUCTION FOR 25 WORKERS BY AGE & SMOKING STATUS, & EXPOSURE

PIONEER MINE

AGE EXPOSURE YEARS	<20				20-29				30-39				40-49				50-59				>=60				TOTAL		
	E	N	S	P	E	N	S	P	E	N	S	P	E	N	S	P	E	N	S	P	E	N	S				
<=4	0		0	0	0																		0	0	0		
1			1	1	1																		2	1	1		
5-9			0	0	0			0															0	0	0		
			1	1	1			2				1											3	1	4		
10-14								0			0	0												0	0		
								1			1																
15-19								0					0	0	0									0	0	0	
								1					1	1	1									1	1	2	
20-24											0			0												0	
											1			1												2	
25-29																											
>=30													0				0						100			25	
													1				2						1			1	
													1				2						1			4	
TOTAL	0		0	0	0			0	0			0	0	0			1					100	0	0	07		
	1		2	2	2			1	3			3	1	1		2						1	6	6	11		

E=EX-SMOKER
N=NON-SMOKER
S=SMOKER

CELLS KEY: PERCENT DIAGNOSED BREATHING OBSTRUCTION
NUMBER DIAGNOSED BREATHING OBSTRUCTION
NUMBER IN CATEGORY

PERCENT & NUMBER OF WORKERS WITH BRONCHITIS FOR 25 WORKERS BY AGE& SMOKING STATUS,& EXPOSURE

PIONFER MINE

TALC EXPOSURE (YEARS)	AGE																					TOTAL		
	<20			20-29			30-39			40-49			50-59			>=60			P	H	S	P	N	S
	P	N	S	P	N	S	P	N	S	P	N	S	P	N	S	P	H	S						
<=4	0					100																0	100	0
	1			1	1	1																2	1	1
5-9				0	33	100	0			100												32	100	25
					1	1				1												1	1	1
				1	3	1	2			1												3	2	4
10-14							0			0	0												0	0
							1			1	1												1	2
15-19							0					0	0	0								0	0	0
							1					1	1	1								1	1	2
20-24										0			0											0
										1			1											2
25-29																								
>=30												0			50			0						25
												1			2			1					1	1
																							1	1
TOTAL	0			0	25	100	0			0	33		0	0	50			0				17	50	13
					1	2				1	1				1			1				1	2	1
				2	1	2	4			1	3		3	1	2			1				6	4	15

R=EX-SMOKER

N=NON-SMOKER

S=SMOKER

CELLS KEY: PERCENT DIAGNOSED BRONCHITIS
NUMBER DIAGNOSED BRONCHITIS
NUMBER IN CATEGORY

PERCENT & NUMBER OF WORKERS WITH COUGH FOR 25 WORKERS BY AGE & SMOKING STATUS, & EXPOSURE

PIONEER MINE

TALC EXPOSURE (YEARS)	AGE																					TOTAL
	<20			20-29			30-39			40-49			50-59			>=60						
	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	
<=4	0		0	0	100														0	100	0	
	1		1	1	1														2	1	1	
5-9			0	0	0	0			100										0	0	25	
			1	3	1	2			1										3	1	4	
10-14						100		0	0										0		50	
						1															1	
						1		1	1												2	
15-19						0				0	0	0							0	0	0	
						1					1	1	1						1	1	2	
20-24									0												0	
									1			1									2	
25-29																						
>=30										0			0			0			0		0	
															2			1			8	
TOTAL	0		0	0	50	25		0	33		0	0	0	0		0	0	25	13			
	1		2	4	2	4		1	3		3	1	1	2		1	6	4	15			

E=EX-SMOKER

N=NON-SMOKER

S=SMOKER

CELLS KEY: PERCENT DIAGNOSED COUGH
NUMBER DIAGNOSED COUGH
NUMBER IN CATEGORY

NUMBER OF WORKERS WITH SHORTNESS OF BREATH FOR 25 WORKERS

PIONEER MINE

TALC EXPOSURE (YEARS)	<20			20-29			30-39			40-49			50-59			>=60			TOTAL		
	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S
<=4	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	002	0	001
5-9	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	002	001	004
10-14	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	001	001
15-19	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	001	002
20-24	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	001	001
25-29	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	001	001
>=40	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	001	002
TOTAL	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	0	0	001	001	001

R=EX-SMOKER

N=NON-SMOKER

S=SMOKER

CELLS KEY: NUMBER WITH NO SHORTNESS OF BREATH
NUMBER WITH MILD SHORTNESS OF BREATH
NUMBER WITH MODERATE SHORTNESS OF BREATH

WCD 001620

DEMOGRAPHIC DATA FOR 25 WORKERS

PIONEER MINE

PRINCIPAL WORK AREA	MEAN AGE	MEAN YEARS EMPLOYED	SEX		RACE			SMOKING STATUS *		
			PERCENT MALE	PERCENT FEMALE	PERCENT BLACK	PERCENT OTHER	PERCENT WHITE	PERCENT SMOKERS	PERCENT NONSMOKERS	PERCENT NONSMOKERS
EXPOSED	34.2	14.4	100.0	0.0	0.0	95.8	4.2	62.5	20.8	16.7
UNEXPOSED	18.0	7	100.0	0.0	0.0	100.0	0.0	0.0	100.0	0
TOTALS	33.6	13.4	100.0	0.0	0.0	96.0	4.0	60.0	24.0	16.0

25 TOTAL
OTHER WORK WORKERS

NON-SMOKERS ARE THOSE WHO HAVE SMOKED LESS THAN 6 MONTHS
EX-SMOKERS ARE THOSE WHO HAVE NOT BEEN SMOKING FOR THE PAST SIX MONTHS

REPORT & NUMBER OF WORKERS WITH PNEUMOCONIOSIS FOR 69 WORKERS BY AGE, SMOKING STATUS, & EXPOSURE

TEXAS REGION

AGE EXPOSURE YEARS	<20			20-29			30-39			40-49			50-59			>=60			TOTAL		
	P	N	S	P	N	S	P	N	S	P	N	S	P	N	S	P	N	S	P	N	S
<4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	1	2	1	1	1													2	2	3
5-9		0	0	0	0	0	0	0	0				0		0				0	0	0
		1	1	2	1	4	1	1	1				1		1				4	3	7
10-14						50		0	0										0	70	
						2		2	3										2	5	
15-19					0	0	0	0	0				0	0	0			0	0	0	0
					1	1	2	2	3				2	1	1			1	3	6	7
20-24					0	0		0	0				0					0		0	
					1	1			3				1					3		6	
25-29								0	0									0		0	
								3	1									1		3	
>=30										0	0	0	0	0	0	0	0	0	0	0	0
										2	1	3	1	5	1		1	2	3	7	
TOTAL	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	02	
	1	2	2	3	3	6	4	5	10	3	2	4	5	2	6	1	2	11	18	20	

* X - SMOKE
 * N - NO SMOKE
 * S - SMOKE

CPLS KEY: PERCENT DIAGNOSED PNEUMOCONIOSIS
 NUMBER DIAGNOSED PNEUMOCONIOSIS
 NUMBER IN CATEGORY

RECEIVED
 JUL 18 1978
 INDUSTRIAL MEDICINE
 DIVISION

PERCENT & NUMBER OF WORKERS WITH MASSIVE FIBROSIS FOR 69 WORKERS BY AGES SMOKING STATUS, & EXPOSURE

TEXAS REGION

FALC EXPOSURE (YEARS)	<25			20-29			30-39			40-49			50-59			>=60			TOTAL		
	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S
<=4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	1	2	1	1	1													2	2	3
5-9		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1	1	2	1	4	1	1	1				1		1				5	2	7
10-14							0		0	0									0	0	
							2		2	3									2	5	
15-19					0	0	0	0	0			0	0	0				0	0	0	0
					1	1	2	2	3			2	1	1			1	3	6	7	
20-24							0	0		0	0		0						0		0
							1	1		1	2		1					3		6	
25-29										0	0								0		0
										3	1							1		3	
>=30												0	0	0	0	0	0	0	0	0	0
												2	1	3	1	5	1	1	4	5	7
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	2	3	3	7	9	4	5	10	2	2	4	5	2	5	1	2	17	10	18	

E=EX-SMOKER
N=NON-SMOKER
S=SMOKER

CELLS KEY: PERCENT DIAGNOSED MASSIVE FIBROSIS
NUMBER DIAGNOSED MASSIVE FIBROSIS
NUMBER IN CATEGORY

MPAN PEP50 FOR 69 WORKERS BY AGE, AND SMOKING STATUS, AND EXPOSURE

TEXAS REGION

SALC EXPOSURE (YEARS)	<20				20-29				30-39				40-49				50-59				>=60				TOTAL			
	E	N	S	T	E	S	T	N	S	T	E	S	T	E	S	T	E	N	S	T	E	N	S	T				
<5	520	458	433	833	473	801																		365	469	506		
	1	1	2	1	1	1																		2	2	3		
5-9		362	453	482	568	533	550	479	713					238		168								451	469	496		
		1	1	3	1	4	1	1	1					1		1								5	3	7		
10-14						414		291	347															291	376			
						2		2	3																			
15-19					693	561	503	389	571				431	315	563									440	508	522		
					1	1	2	2	3				2	1	1									3	4	6		
20-24						525	628		422	456		341												520	---	426		
						1	1		4	2		1												3		6		
25-29									394	507														507		394		
									3	1														1		3		
>=30												186	291	367	206	321	335			228	408	183	304					
												2	1	3	1	5	1			1	4	3	7					
TOTAL	520	413	439	575	578	539	545	360	452	480	186	373	335	385	395	533	---	228	480	395	432			18	24	37		
	1	2	3	4	3	9	4	5	14	7	2	4	5	2	6	1		1	16	24	37							

PEP50 IS IN CENTILITERS PPR SECOND

N=EX-SMOKEP

N=NON-SMOCKER

S=SMOKER

CELLS RPY: MEAN PEP50
NUMBER IN CATEGORY

TEXAS REGION

AGE	EXPOSURE (YEARS)	20-29	30-39	40-49	50-59	>60	TOTAL
<5	531 421 352 431 306 458	1 1 2 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	531 421 352 431 306 458
5-9	352 441 376 446 435 402 475	1 1 3 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	352 441 376 446 435 402 475
10-14	381 407 380	2	2 3 3 3 3	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2	381 407 380
15-19	416 302 374 371 396	1 1 2 2 2	1 1 2 2 2	1 1 2 2 2	1 1 2 2 2	1 1 2 2 2	416 302 374 371 396
20-24	327 275	1 1	1 1 2 2 2	1 1 2 2 2	1 1 2 2 2	1 1 2 2 2	327 275
25-29	351 424	3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	351 424
>=30	276 334 324 256 256 334 299 327 268 275	3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3	276 334 324 256 256 334 299 327 268 275
TOTAL	531 391 308 396 360 418 386 399 378 419 274 312 297 340 268 334 ---- 299 375 365 362	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	531 391 308 396 360 418 386 399 378 419 274 312 297 340 268 334 ---- 299 375 365 362

AGE IS IN CATEGORIES PER RECORD
 SEX-SOURCE
 AGE-SOURCE
 CELLS WITH HEAD LINE
 NUMBER IN CATEGORY

MEAN PVC FOR 69 WORKERS BY AGE, AND SMOKING STATUS, AND EXPOSURE
TEXAS REGION

EXPOSURE (YEARS)	<20			20-29			30-39			40-49			50-59			>=60			TOTAL		
	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S	E	N	S
1-9	560	502	475	484	335	500													572	418	197
	1	1	2	1	1	1													2	2	3
3-9		453	474	465	463	548	552	602	582				400		516				469	506	598
		1	1	3	1	4	1	1	1				1		1				5	3	7
10-14						487		542	491										562		489
						2		2	3										2		5
15-19						474	440	465	476	524		354	268	510					400	488	454
						1	1	2	2	3		2	1	1					3	4	6
20-24						386	422		481	500		390							474		450
						1	1		4	2		1							3		6
25-29									466	541									541		466
									3										1		3
>=30										435	454	433	381	347	401		448		425	417	391
										2	1	3	1	5	1		1		2	3	7
TOTAL	650	477	475	470	424	504	476	527	496	513	435	388	393	445	392	401		440	464	473	466
	1	2	3	4	3	9	8	5	16	3	2	4	3	2	6	1		1	18	18	37

PVC IS IN CUBIC LITERS

N=NON-SMOKER

S=SMOKER

CELLS ARE: MEAN PVC
NUMBER IN CATEGORY

PERCENT & NUMBER OF WORKERS WITH BREATHING OBSTRUCTION FOR 69 WORKERS BY AGE & SMOKING STATUS, & EXPOSURE

TEXAS REGION

AGE EXPOSURE (YEARS)	<20			20-29			30-39			40-49			50-59			>=60			TOTAL		
	P	R	S	P	R	S	P	R	S	P	R	S	P	R	S	P	R	S	P	R	S
0-4	0	0	0	0	0	0													0	0	0
	1	1	2	1	1	1													2	2	5
5-9		0	0	0	0	0	0	0	0				0		100				0	0	14
		1	1	3	1	4	1	1	1				1		1				5	5	7
10-14							0		30	0									30	0	
							2		2	3									2		5
15-19					0	0	0	0	33			0	0	0					0	0	17
					1	1	2	2	1			2	1	1					3	4	6
20-24					0	0			0	0		0							0		0
							1		4	2		1							3		6
25-29									0	0									0		0
									3	1									1		3
>=30										50	0	33	100	40	0		100	25	67	48	
									1	1		1	1	2			1	1	2	3	
									2	1		3	1	5	1		1	4	5	7	
TOTAL	0	0	0	0	0	0	0	20	07	0	50	0	20	50	50	0	100	06	31	14	
								1	1		1		1	3			1	1	3	5	
								4	5	14	3	2	4	5	2	6	1	18	14	27	

P=PERCENT

R=NUMBER

S=SMOKER

CELLS KEY: PERCENT DIAGNOSED BREATHING OBSTRUCTION
NUMBER DIAGNOSED BREATHING OBSTRUCTION
NUMBER IN CATEGORY

PERCENT & NUMBER OF WORKERS WITH BRONCHITIS FOR 71 WORKERS BY AGE & SMOKING STATUS, & EXPOSURE

TEXAS REGION

C EXPOSURE (Y-ARS)	<20			20-29			30-39			AGE 40-49			50-59			>=60			TOTAL		
	P	N	%	P	N	%	P	N	%	P	N	%	P	N	%	P	N	%	P	N	%
<4	0	0	50	0	100	0													0	50	33
	1	1	2	1	1	1													2	2	3
5-9		0	0	33	100	0	0	0	100				0	---	0	---	---	---	20	33	14
		1	1	1	1		1	1	1				1		1				5	5	7
10-14							0	0	0										0	0	
							2	2	3										2	5	
15-19				0	0	50	0	0	0			0	50	0				0	50	0	0
				1	1	2	2	2	2			2	2	1				1	2	4	3
20-24					0	0		0	50			0							33		0
					1	1		4	2			1						3		0	
25-29								0	0										0		0
								3	1										1		3
30-34											50	0	33	0	20	100		0	50	33	14
											1	1	1	1	1			2	2	1	1
											2	1	3	1	5	1		1	4	3	7
TOTAL	0	0	33	25	67	0	25	0	67	33	50	0	33	0	17	100		0	32	21	66
	1	2	3	4	1	9	4	5	14	1	2	4	5	2	5	1		2	12	10	18

Y-SMOKEP

OR-SMOKEP

SMOKES

ELLS YET: PERCENT DIAGNOSED BRONCHITIS

NUMBER OTAGNOSED BRONCHITIS

NUMBER AS CATEGORY

PERCENT & NUMBER OF WORKERS WITH COUGH FOR 74 WORKERS BY AGES, SMOKING STATUS, & EXPOSURE

TEXAS REGION

TALC EXPOSURE (YEARS)	≤30			20-29			30-39			40-49			50-59			≥60			TOTAL		
	N	E	S	N	E	S	N	E	S	N	E	S	N	E	S	N	E	S	N	E	S
≤5	0	0	50	0	100	0	0	0	0	100	0	0	0	0	0	0	0	0	0	50	23
	1	1	2	1	1	1													2	2	3
5-9	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	14
	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	3	7
10-14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
							2	2	3										2	5	
15-19	0	0	0	0	0	50	0	33	0	0	0	50	0	0	0	0	50	0	0	0	18
	1	1	2	2	3	1	1	1	1	2	2	1	1	1	1	1	2	1	1	1	7
20-24	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	33	0	0
	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	1
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
							3	1											1		3
≥30	0	0	33	0	33	1	25	0	14	33	50	0	33	0	17	100	0	50	33	14	
	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	1	
TOTAL	0	0	33	0	33	1	25	0	14	33	50	0	33	0	17	100	0	26	14	13	
	1	2	3	1	3	3	4	5	10	3	2	6	6	2	6	1	2	19	13	10	

N=NON-SMOKER

E=EX-SMOKER

S=SMOKER

CRASH KEY: PERCENT DIAGNOSED COUGH
NUMBER DIAGNOSED COUGH
NUMBER IN CATEGORY

NUMBER OF WORKERS WITH SHORTNESS OF BREATH FOR 71 WORKERS

TEXAS REGION

AGE 1920 SUPP (YEARS)	<20			20-29			30-39			40-49			50-59			>=60			TOTAL		
	0	1	2	0	1	2	0	1	2	0	1	2	0	1	2	0	1	2	0	1	2
0-9	001	001	001	001	0	001													002	001	002
	0	0	001	0	001	0													0	001	001
	0	0	0	0	0	0													0	0	0
	0	0	0	0	0	0													0	0	0
10-19		001	001	002	001	004	001	001	001			001		001					000	003	007
		0	0	001	0	0	0	0	0	0		0		0					001	0	0
		0	0	0	0	0	0	0	0	0		0		0					0	0	0
		0	0	0	0	0	0	0	0	0		0		0					0	0	0
20-29						002		001	002										001	004	
						0		0	001										0	001	
						0		0	0										0	0	
						0		001	0										001	0	
30-39					001	001	001	002	002			002	001	0					001	002	003
					0	0	001	0	001			0	001	001					0	002	001
					0	0	0	0	0			0	0	0					0	0	0
					0	0	0	0	0			0	0	0					0	0	0
40-49						001	001		002	002		0							003		005
						0	0		0	0		001							0		001
						0	0		0	0		0							0		0
						0	0		0	0		0							0		0
50-59								002	0										0		002
								0	001										001		0
								001	0										0		001
								0	0										0		0
>=60										001	0	001	001	002	0				001	001	002
										0	001	001	0	002	0				0	001	0
										001	0	0	001	0					0	0	001
										0	0	001	0	0	001				0	002	0
TOTAL	001	002	002	003	002	009	003	004	011	002	001	002	003	001	003	0			002	012	010
	0	0	001	001	001	0	001	0	002	001	0	002	002	001	002	0			0	005	002
	0	0	0	0	0	0	0	0	001	0	001	0	0	0	001	0			0	0	001
	0	0	0	0	0	0	0	001	0	0	0	0	001	0	0	001			0	002	001

01-SMOKER

00-NON-SMOKER

00-SMOKER

00-CELLS NEW

NUMBER WITH NO SHORTNESS OF BREATH

NUMBER WITH MILD SHORTNESS OF BREATH

NUMBER WITH MODERATE SHORTNESS OF BREATH

NUMBER WITH SEVERE SHORTNESS OF BREATH

DEMOGRAPHIC DATA FOR 71 WORKERS

TEXAS REGION

PRINCIPAL WORK AREA	MEAN AGE	MEAN YEARS EXPOSURE	SEX		RACE			PERCENT SMOKERS	SMOKING STATUS *	
			PERCENT MALE	PERCENT FEMALE	PERCENT BLACK	PERCENT OTHER	PERCENT WHITE		PERCENT EX-SMOKERS	PERCENT NON-SMOKERS
EXPOSED	37.2	17.5	100.0	0.0	2.8	87.3	9.9	53.5	26.8	19.7
UNEXPOSED	0.0	.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0
TOTALS	37.2	17.5	100.0	0.0	2.8	87.3	9.9	53.5	26.8	19.7

71 TALC WORKERS

0 OTHER WORK

NON-SMOKERS ARE THOSE WHO HAVE SMOKED LESS THAN 6 MONTHS
EX-SMOKERS ARE THOSE WHO HAVE NOT BEEN SMOKING FOR THE PAST SIX MONTHS