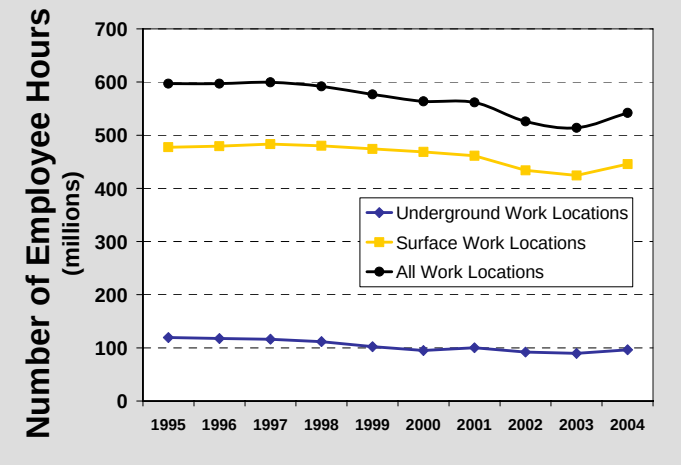
UNDERGROUND AND SURFACE MINING FACTS – 2004

In 2004, data obtained from the Mine Safety and Health Administration (MSHA) indicated a total of 891 underground (6.2%) and 13,587 surface (93.8%) **mining operations**.[1]

A total of 46,360 **employees**,[2] or 48,183 full-time equivalent (FTE)[3] employees, were reported to MSHA as working at underground mining locations in 2004. This corresponded to 249,457 employees (or 222,839 FTE employees) that were reported as working at surface locations.[4]

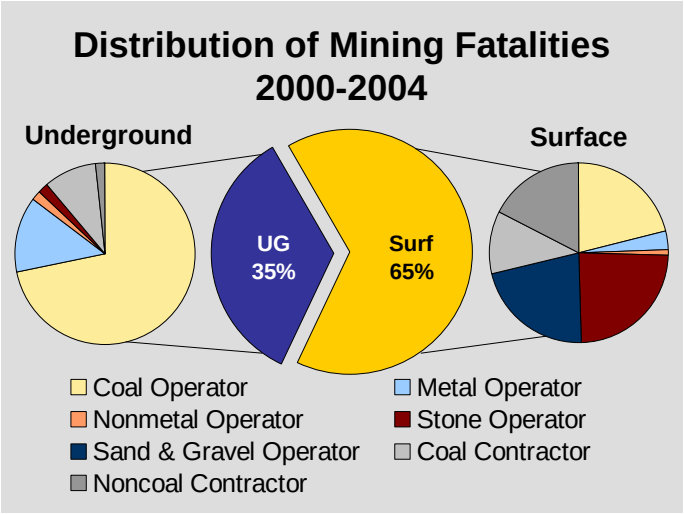
- Surface work location employee hours accounted for 82.2% of all hours reported to MSHA, while 17.8% of employee hours were reported for underground work locations.



- The majority of surface employee hours were for mine operator employees (83.4%) as opposed to independent contractor employees (16.6%).
- Coal operators were the mining sector[5] reporting the most underground worker employee hours to MSHA (n=73,512,625; 76.3%).

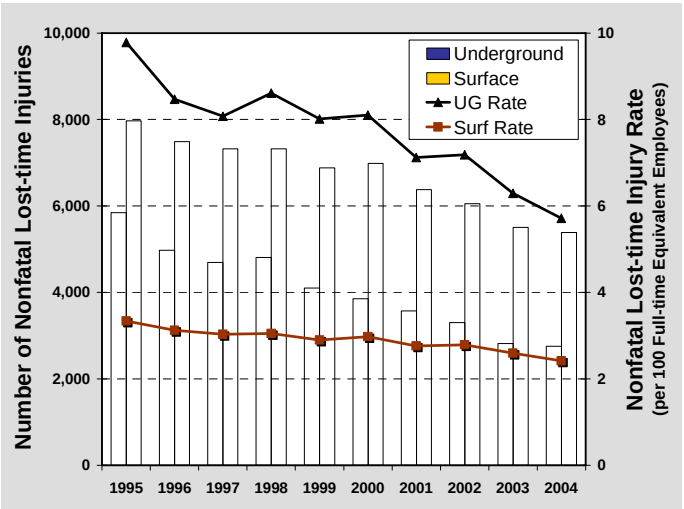
Of the 55 occupational mining **fatalities** reported to MSHA in 2004, 16 occurred at underground work locations, while 39 occurred at surface locations.

- The fatality rate of 33.2 per 100,000 FTE employees was higher at underground work locations, compared to the rate of 17.5 for surface work locations.



Within underground work locations, 2,753 **nonfatal lost-time injuries** were reported, resulting in 190,005 lost workdays.[6] This compares to 5,386 nonfatal lost-time injuries attributed to surface workers (total days lost = 273,334).

- The overall underground nonfatal lost-time injury rate was greater than the surface injury rate (5.7 vs. 2.4 per 100 FTE workers).
- The most frequent classifications of nonfatal lost-time injuries involved handling materials for both underground (n=851; 30.9%) and surface (n=1,882; 34.9%) work locations.



DEPARTMENT OF HEALTH AND HUMAN SERVICES
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September 2007

- The back was the most frequently reported part of the body injured at both underground (n=536; 19.5%) and surface (n=1,163; 21.6%) work locations. These back injuries accounted for 47,191 days lost from work at underground work locations and 63,271 days lost at surface locations in 2004.

In 2004, 167 cases of **occupational illnesses** were reported at underground work locations.[7] This compares to 259 cases reported for surface locations.

- The majority of the reported illness cases were for joint, tendon, or muscle inflammation or irritation for both underground (n=81; 48.5%) and surface (n=115; 44.4%) work locations.

Mining Characteristics, 2004

Commodity and Type of Employer	No. of Mines		No. of Employees		No. of FTE Employees		Fatality Rate		Nonfatal Lost-time Injury Rate	
	UG	Surf	UG	Surf	UG	Surf	UG	Surf	UG	Surf
Coal Operator	646	1,365	33,490	39,534	36,756	43,313	35.4	23.1	6.1	2.0
Metal Operator	74	177	3,905	21,300	3,810	22,281	26.2	4.5	3.4	1.9
Nonmetal Operator	46	695	2,289	17,143	2,441	17,742	41.0	--	3.4	2.6
Stone Operator	125	4,276	1,768	66,649	1,950	69,203	--	11.6	3.9	3.2
Sand & Gravel Operator	--	7,074	--	37,000	--	33,364	--	24.0	--	2.3
Operator Total	**891**	**13,587**	**41,452**	**181,626**	**44,957**	**185,902**	**33.4**	**14.5**	**5.7**	**2.6**
Coal Contractor	--	--	3,697	26,531	2,334	15,630	42.8	25.6	7.8	1.8
Noncoal Contractor	--	--	1,211	41,300	892	21,306	--	37.5	2.8	1.6
Contractor Total	**--**	**--**	**4,908**	**67,831**	**3,226**	**36,936**	**31.0**	**32.5**	**6.4**	**1.7**
TOTAL	**891**	**13,587**	**46,360**	**249,457**	**48,183**	**222,839**	**33.2**	**17.5**	**5.7**	**2.4**

Data may not add to totals due to independent rounding. Number of employees was rounded at the subunit level of each mine to be consistent with MSHA reporting. Fatality rates were computed per 100,000 FTE employees. Nonfatal lost-time injury rates were computed per 100 FTE employees.

Notes: All analyses exclude office employees. Further statistical methodology is available on the NIOSH Internet [http://www.cdc.gov/niosh/mining/statistics/method.htm].

[1]When classifying mining operations as either underground or surface, the mines reporting employment for the subunit "Surface Operations at Underground Mines" were counted as underground mines. Mining operations reporting only office employees were determined to be underground or surface based on the reported mine type. Mines at which only independent contractors were working did not show any employment and were not counted.

[2]Number of employees is the average number of persons working at individual establishments during calendar quarters of active operations. Employment numbers were rounded at the subunit level of each mine to be consistent with MSHA reporting.

[3]Full-time equivalent employees were computed using reported employee hours (2,000 hours = 1 FTE).

[4]Surface work locations include surface operations at underground mines (surface shops and yards, tipple physically located at the mine site), surface operations (strip or open pit mines including associated shops and yards), auger mining operations, culm banks (reworking of mine dumps or refuse pile), dredge (mining operations conducted from a platform floating on water), other surface operations (brine pumping, etc.), independent shops and yards not associated with a specific mine, and mill or preparation plant.

[5]Mining sectors: coal operators, metal operators, nonmetal operators, stone operators, sand and gravel operators, coal contractors, and noncoal contractors.

[6]Includes actual days away from work and/or days of restricted work activity. For permanently disabling injuries only, statutory days charged by MSHA were used if they exceeded the total lost workdays.

[7]Because of the complexity of attributing disease causation to the workplace, occupational illnesses may be underreported.

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DHHS (NIOSH) Publication No. 2007–174