# Safety and Health Values

## The Atlantic Alliance Conference

September 22 – 23, 2005

## US Data Mining Initiative---
## What Have We Learned?

Mike Hancher
Metal/Nonmetal Mine Safety and Health
MSHA

# MSHA/NSSGA Alliance Data Mining Team

- Analysis team met in June 2003
- Examined MSHA's injury and illness database for aggregate industry
- Reviewed 12,147 accidents (2000-2003)
  - 67 Fatalities
  - 130 Permanently Disabling Injuries
- Identified types of activities resulting in most injuries, considering severity of the injuries
- Identified pro-active prevention strategies to have positive impact on miner health and safety
- Developed and published 'Statement of Work'

**U.S. Department of Labor**
**Mine Safety and Health Administration**

NATIONAL STONE, SAND & GRAVEL ASSOCIATION

*Natural building blocks for quality of life*

# *MSHA/NSSGA Alliance – Injury and Illness Data Analysis Team[1] Meeting Statement of Work*

***June 25 – 27, 2003***

U.S. Department of Labor
Mine Safety and Health Administration
Protecting Miners' Safety and Health Since 1978



# Title 30 Code of Federal Regulations

Parts 1-199 Mineral Resources
Department of Labor
Mine Safety and Health Administration

MSHA - Title 30 CFR

## CFR § 50.20

**paration and submission of MSHA Report Form 7000-1--Mine Accident, Injury, and Illness Report.**

Each operator shall maintain at the mine office a supply of MSHA Mine Accident, Injury, and Illness Report Form 7000-1. ese may be obtained from the MSHA District Office. Each operator shall report each accident, occupational injury, or upational illness at the mine. The principal officer in charge of health and safety at the mine or the supervisor of the mine area which an accident or occupational injury occurs, or an occupational illness may have originated, shall complete or review the n in accordance with the instructions and criteria in §§50.20-1 through 50.20-7. If an occupational illness is diagnosed as ng one of those listed in §50.20-6(b)(7), the operator must report it under this part. The operator shall mail completed forms MSHA within ten working days after an accident or occupational injury occurs or an occupational illness is diagnosed. When accident specified in §50.10 occurs, which does not involve an occupational injury, sections A, B, and items 5 through 12 of tion C of Form 7000-1 shall be completed and mailed to MSHA in accordance with the instructions in §50.20-1 and criteria tained in §§50.20-4 through 50.20-6.

Each operator shall report each occupational injury or occupational illness on one set of forms. If more than one miner is red in the same accident or is affected simultaneously with the same occupational illness, an operator shall complete a arate set of forms for each miner affected. To the extent that the form is not self-explanatory, an operator shall complete the n in accordance with the instructions in §50.20-1 and criteria contained in §§50.20-2 through 50.20-7.

# Mine Accident, Injury and Illness Report

## U.S. Department of Labor

Mine Safety and Health Administration

• Section A - Identification Data

Approved For Use Through 04/30/2008 OMB Number 1219-0007

MSHA ID Number | Contractor ID | Report Catagory

○ Metal/Nonmetal Mining ○ Coal Mining

☐ Check here if report pertains to contractor

Mine Name | Company Name

• Section B - Complete for Each Reportable Accident Immediately Reported to MSHA

1. Accident Code (circle applicable code - see instructions)

○ 01 - Death ○ 02 - Serious Injury ○ 03 - Entrapment ○ 04 - Inundation ○ 05 - Gas or Dust Ignition ○ 06 - Mine Fire ○ 07 - Explosives ○ 08 - Roof Fall ○ 09 - Outburst ○ 10 - Impounding Dam ○ 11 - Hoisting ○ 12 - Offsite injury

2. Name of Investigator

3. Date Investigation Started

| Month | Day | Year |
|---|---|---|
| | | |

4. Steps Taken to Prevent Recurrence of Accident

• Section C - Complete for Each Reportable Accident, Injury or Illness

5. Circle the Codes Which Best Describe Where Accident/Injury/Illness Occurred (see instructions)

(a) Surface Location: ○ 02 Surface at Underground Mine ○ 30 Mill, Preparation Plant, etc. ○ 03 Strip/Open Pit Mine ○ 04 Surface Auger Operation ○ 05 Culm Bank/Refuse Pile ○ 06 Dredge Mining ○ 12 Other Surface Mining ○ 17 Independent Shops (with own MSHA ID) ○ 99 Office Facilities

(b) Underground Location: ○ 01 Vertical Shaft ○ 02 Slope/Inclined Shaft ○ 03 Face ○ 04 Intersection ○ 05 Underground Shop/Office ○ 06 Other

(c) Underground Mining Method: ○ 01 Longwall ○ 02 Shortwall ○ 03 Conventional Stoping ○ 05 Continuous Mining ○ 06 Hand ○ 07 Caving ○ 08 Other

6. Date of Accident

| Month | Day | Year |
|---|---|---|
| | | |

7. Time of Accident • am • pm

8. Time Shift Started • am • pm

7
8

9. Describe Fully the Conditions Contributing to the Accident/Injury/Illness, and Quantify the Damage or Impairment

Mine Accident, Injury and Illness Report

**U.S. Department of Labor**

Mine Safety and Health Administration

Approved For Use Through 04/30/2008 OMB Number 1219-0007

• Section A - Identification Data

MSHA ID Number | Contractor ID | Report Catagory: ◯ Metal/Nonmetal Mining ◯ Coal Mining | ☐ Check here if report pertains to contractor

Mine Name | Company Name

• Section B - Complete for Each Reportable Accident Immediately Reported to MSHA

1. Accident Code (circle applicable code - see instructions) ◯ 01 - Death ◯ 02 - Serious Injury ◯ 03 - Entrapment ◯ 04 - Inundation ◯ 05 - Gas or Dust Ignition ◯ 06 - Mine Fire ◯ 07 - Explosives ◯ 08 - Roof Fall ◯ 09 - Outburst ◯ 10 - Impounding Dam ◯ 11 - Hoisting ◯ 12 - Offsite injury

2. Name of Investigator | 3. Date Investigation Started (Month, Day, Year) | 4. Steps Taken to Prevent Recurrence of Accident

• Section C - Complete for Each Reportable Accident, Injury or Illness

5. Circle the Codes Which Best Describe Where Accident/Injury/Illness Occurred (see instructions)

(a) Surface Location: ◯ 02 Surface at Underground Mine ◯ 30 Mill, Preparation Plant, etc. ◯ 03 Strip/Open Pit Mine ◯ 04 Surface Auger Operation ◯ 05 Culm Bank/Refuse Pile ◯ 06 Dredge Mining ◯ 12 Other Surface Mining ◯ 17 Independent Shops (with own MSHA ID) ◯ 99 Office Facilities

(b) Underground Location: ◯ 01 Vertical Shaft ◯ 02 Slope/Inclined Shaft ◯ 03 Face ◯ 04 Intersection ◯ 05 Underground Shop/Office ◯ 06 Other

(c) Underground Mining Method: ◯ 01 Longwall ◯ 02 Shortwall ◯ 03 Conventional Stoping ◯ 05 Continuous Mining ◯ 06 Hand ◯ 07 Caving ◯ 08 Other

6. Date of Accident (Month, Day, Year) | 7. Time of Accident • am • pm | 8. Time Shift Started • am • pm

7
8

9. Describe Fully the Conditions Contributing to the Accident/Injury/Illness, and Quantify the Damage or Impairment

10. Equipment Involved | Type | Manufacturer | Model Number

10
MAN

11. Name of Witness to Accident/Injury/Illness | 12. Number of Reportable Injuries or Illnesses Resulting from This Occurrence

13. Name of Injured/Ill Employee | 14. Sex • Male • Female | 15. Date of Birth (Month, Day, Year)

12
14

16. Last Four Digits of Social Security Number | 17. Regular Job Title | ☐ 18. Check if this Injury/Illness resulted in death. | ☐ 19. Check if Injury/Illness resulted in permanent disability (include amputation, loss of use, & permanent total disability.

16
17
18
19

20. What Directly Inflicted Injury or Illness? | 21. Nature of Injury or Illness

20
21

22. Part of Body Injured or Affected | 23. Occupational Illness (circle applicable code - see instructions) ◯ 21 Occupational Skin Diseases ◯ 22 Dust Diseases of the Lungs ◯ 23 Respiratory Conditions (toxic agents) ◯ 24 Poisoning (toxic Materials) ◯ 25 Disorders (physical agents) ◯ 26 Disorders (repeated trauma) ◯ 29 Other

22
24

24. Employee's Work Activity When Injury or illness Occurred

| Experience | Years | Weeks |
|---|---|---|
| 25. Experience in This Job Title | | |
| 26. Experience at This Mine | | |
| 27. Total Mining Experience | | |

*For Official Use Only*

Degree
Accident Type
Accident Class
Scheduled Charge
Keyword

• Section D - Return to Duty Information

*Answer 30 & 31 when case is closed*

• 28. Permanently Transferred or Terminated (if checked, complete items 29,30, &31) ☐

29. Date Returned to Regular Job at Full Capacity (or item 28) (Month, Day, Year)

30. Number of Days Away from Work (if none, enter 0)

31. Number of Days Restricted Work Activity (if none, enter 0)

Person Completing Form (name) | Title

Date This Report Prepared (month, Day, year) | Area Code and Telephone Number

MSHA Form 7000-1, Feb 00 (revised)

te of Model: 7-19-2004
vision: 8-20-2004
1-05-2005
2-10-2005
4-14-2005

U.S. Department of Labor
MSHA
Mine Safety & Health Administration

THE PART 50 ACCIDENT, INJURY AND ILLNESS DATA ON THIS SYSTEM IS PROTECTED BY THE PRIVACY ACT AND SHOULD BE HANDLED ACCORDINGLY

- Ad Hoc
- Assessments
- Samples
- Accident Investigation
- Common Tables

- MSIS Ad Hoc
- MSIS Assessments
- MSIS Samples
- MSIS Accident Investigation
- MSIS Common Tables
- MSIS Code Conversions

- QUERIES
- Notes

The Teradata is updated each Thursday night with Wednesday night production data from MIS, MSIS and Part 50 and is complete on Friday morning.

Corrections and requests for this model should be emailed to Carolyn Stasik.

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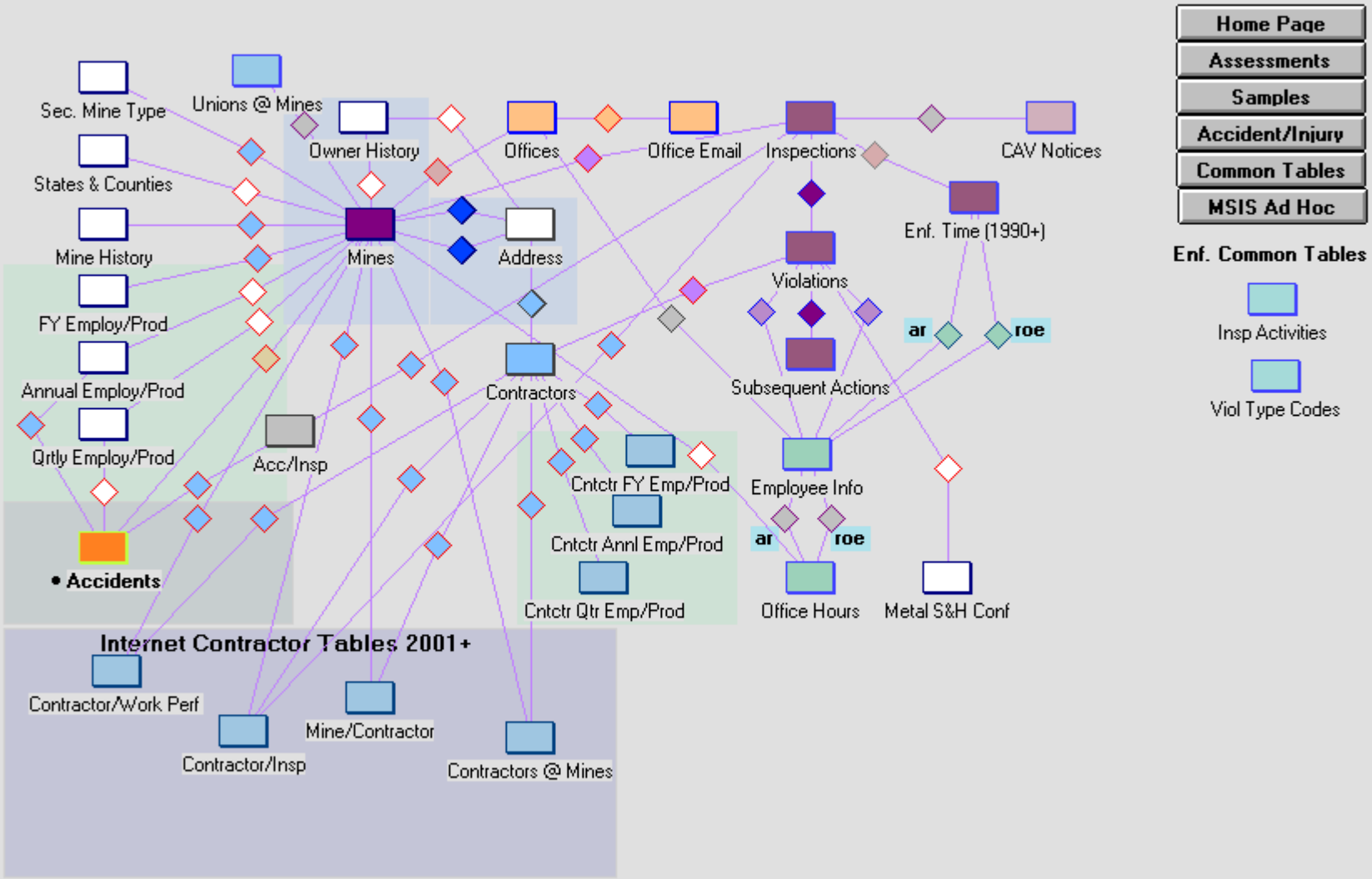
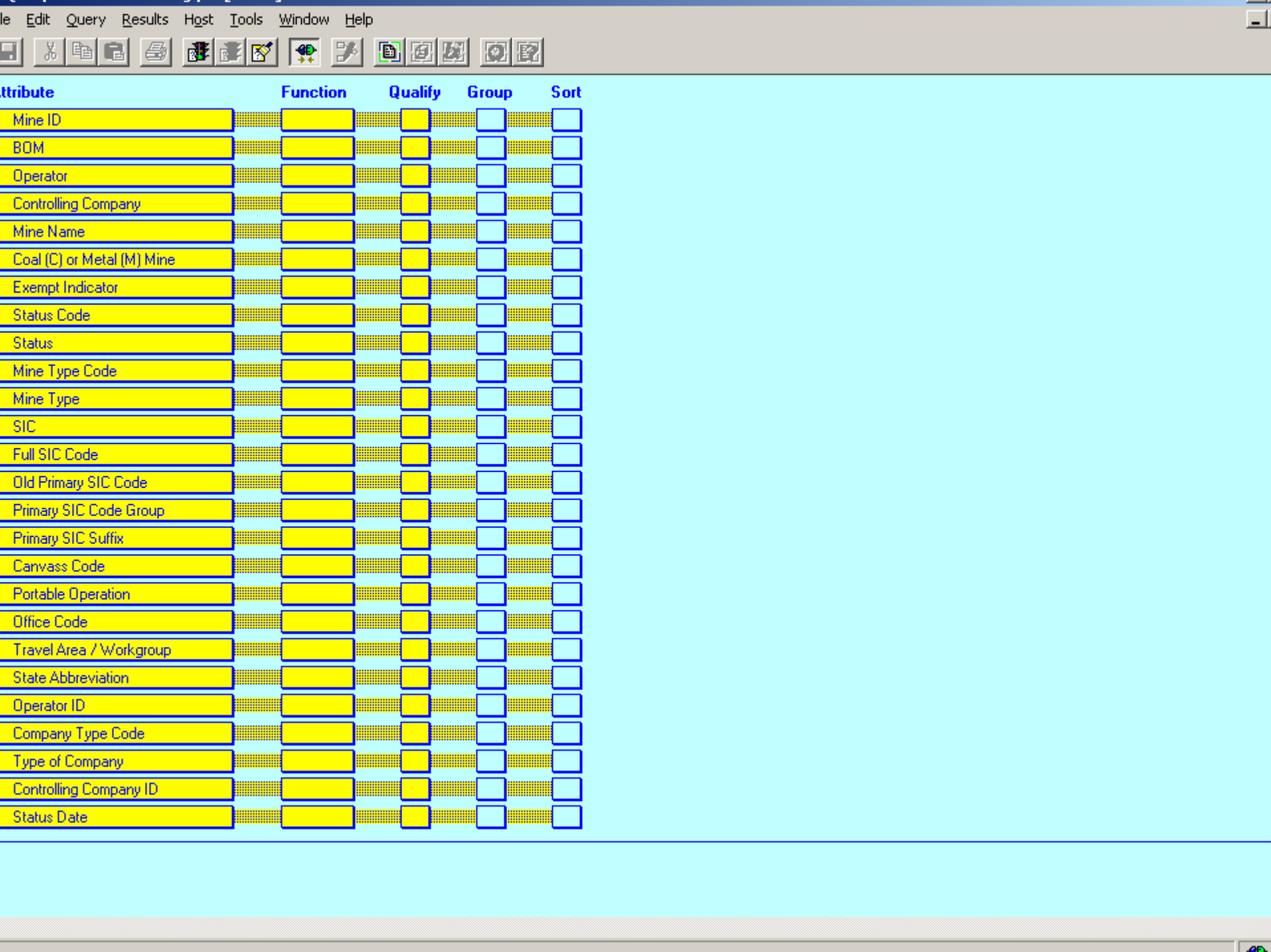
l Hoc

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Function
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Mine ID
BOM
Operator
Controlling Company
Mine Name
Coal (C) or Metal (M) Mine
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Status Code
Status
Mine Type Code
Mine Type
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Full SIC Code
Old Primary SIC Code
Primary SIC Code Group
Primary SIC Suffix
Canvass Code
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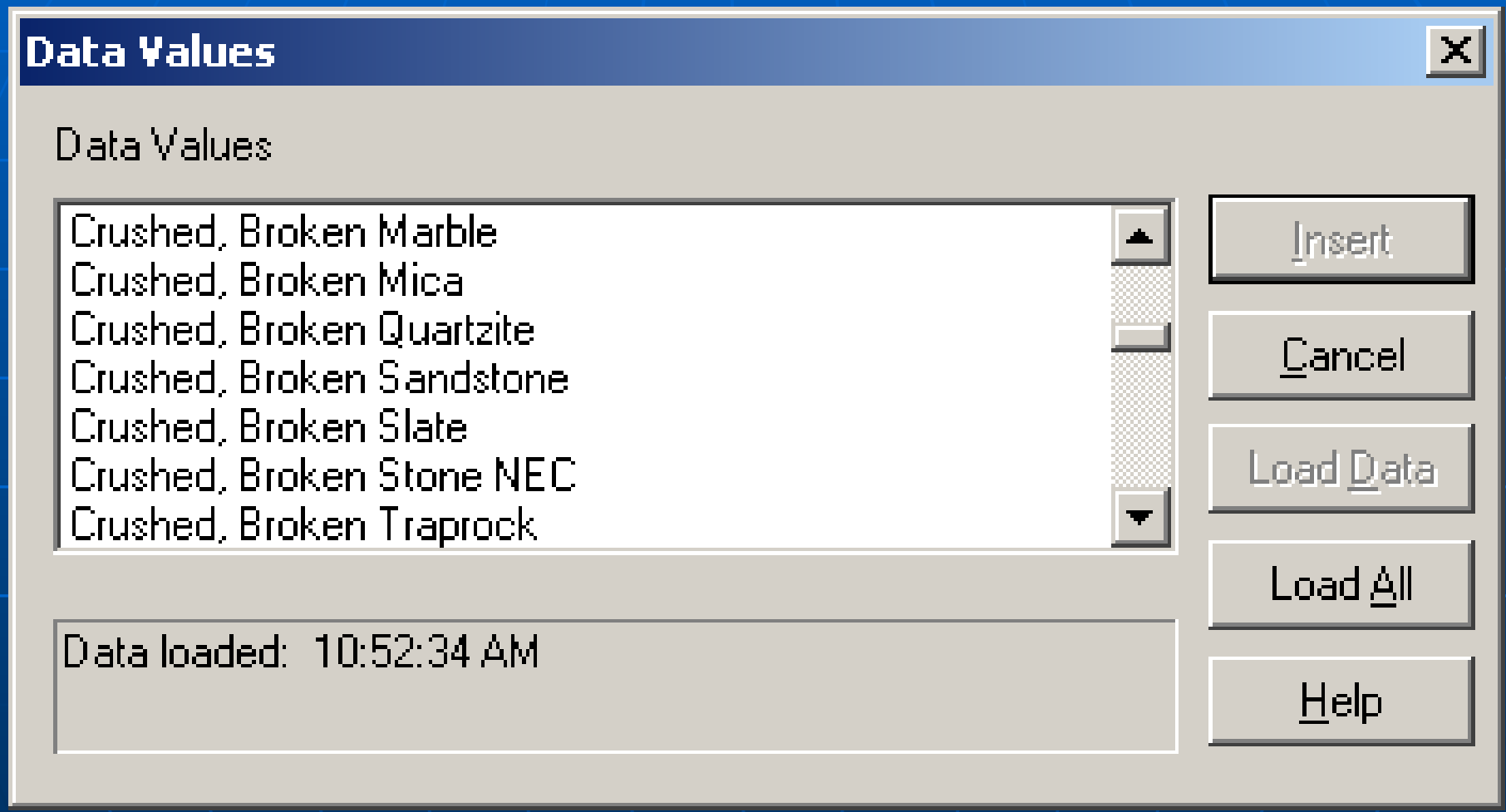
Office Code
Travel Area / Workgroup
State Abbreviation
Operator ID
Company Type Code
Type of Company
Controlling Company ID
Status Date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| Mine ID | | | | |
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| Subunit Code | | | | |
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| Accident Date | | | | |
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| Accident Time | | | | |
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| FIPS State Code | | | | |
| UG Location Code | | | | |
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| UG Mining Method Code | | | | |
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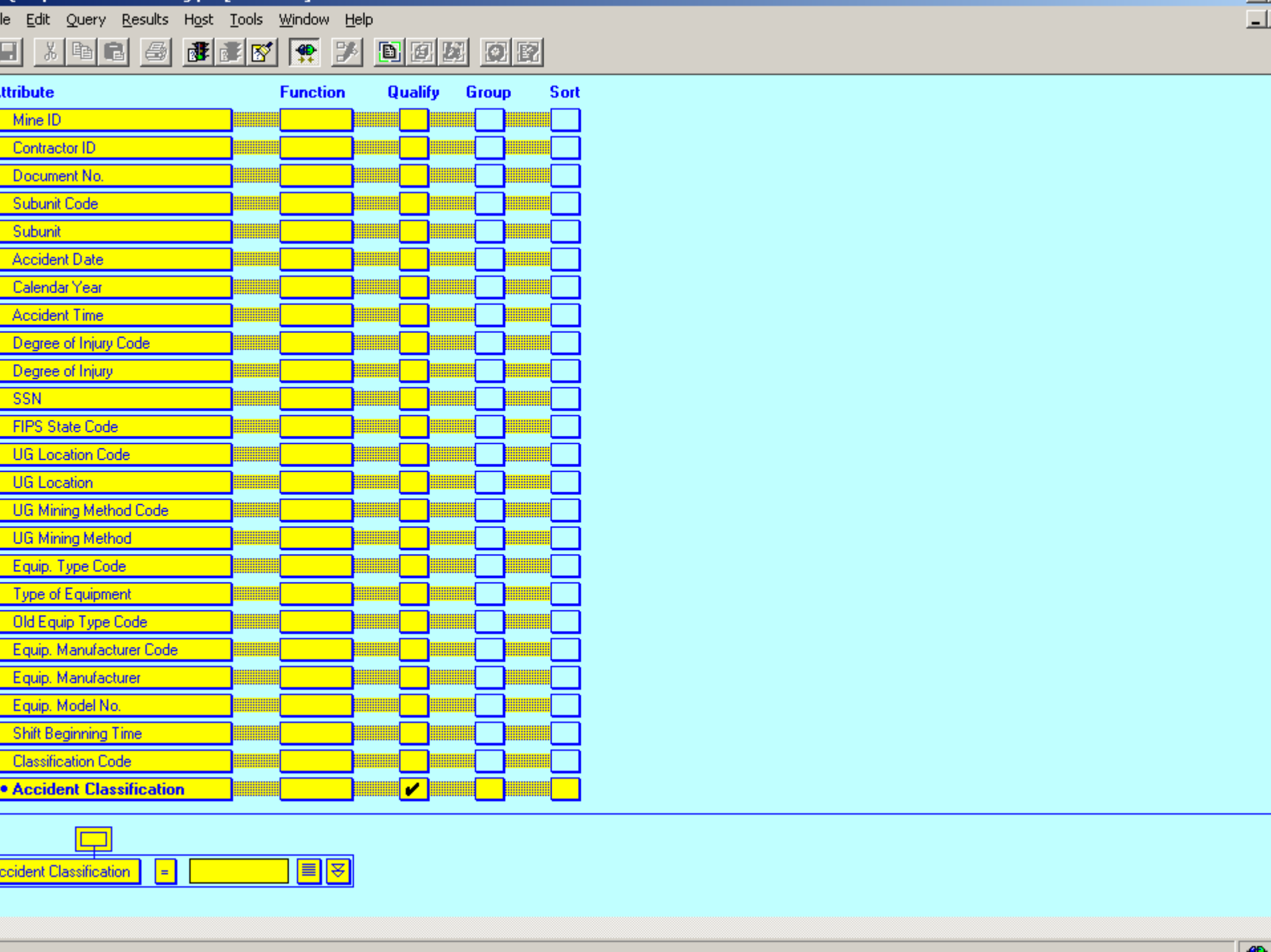
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UG Mining Method Code
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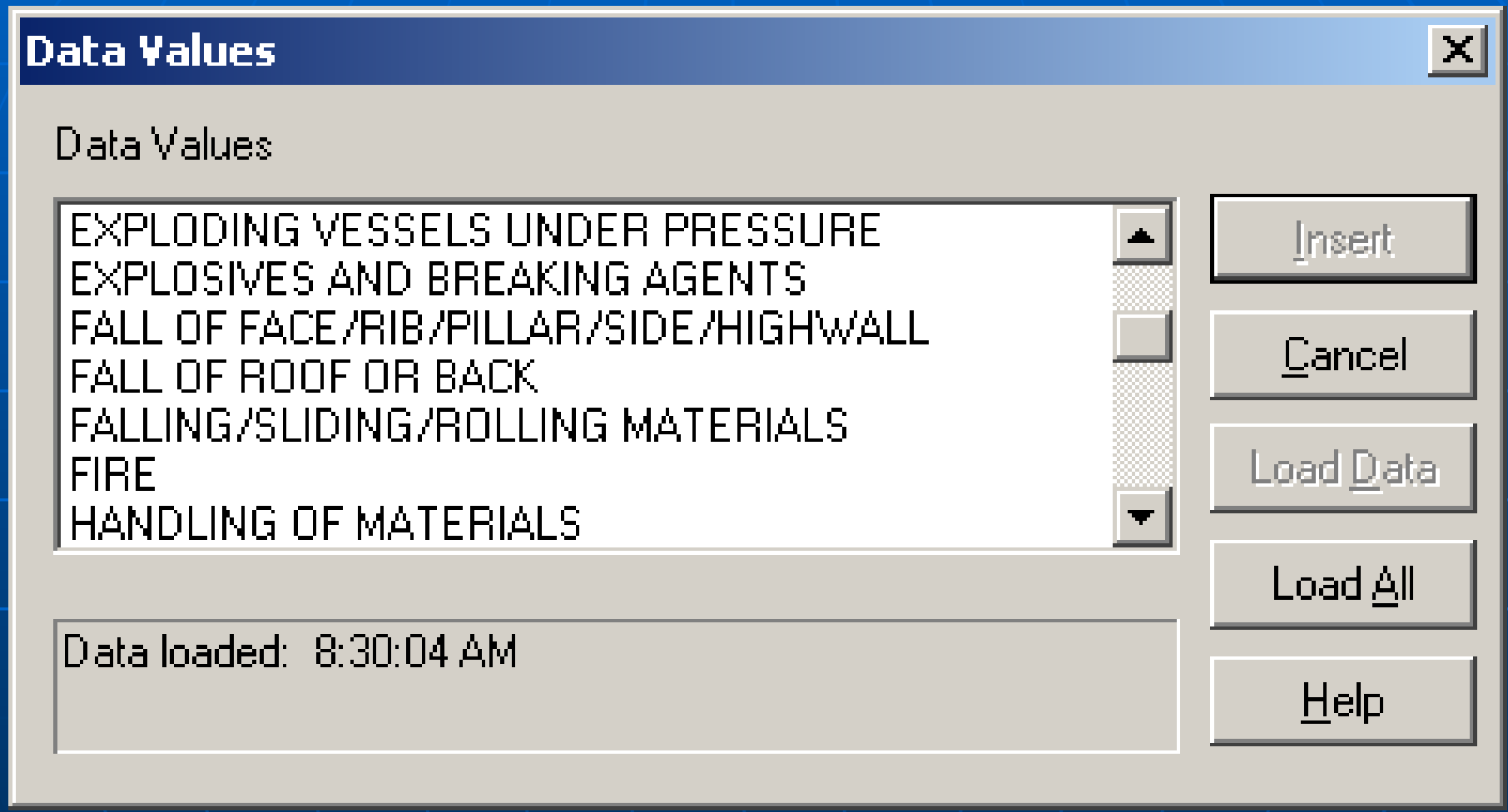
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EXPLODING VESSELS UNDER PRESSURE
EXPLOSIVES AND BREAKING AGENTS
FALL OF FACE/RIB/PILLAR/SIDE/HIGHWALL
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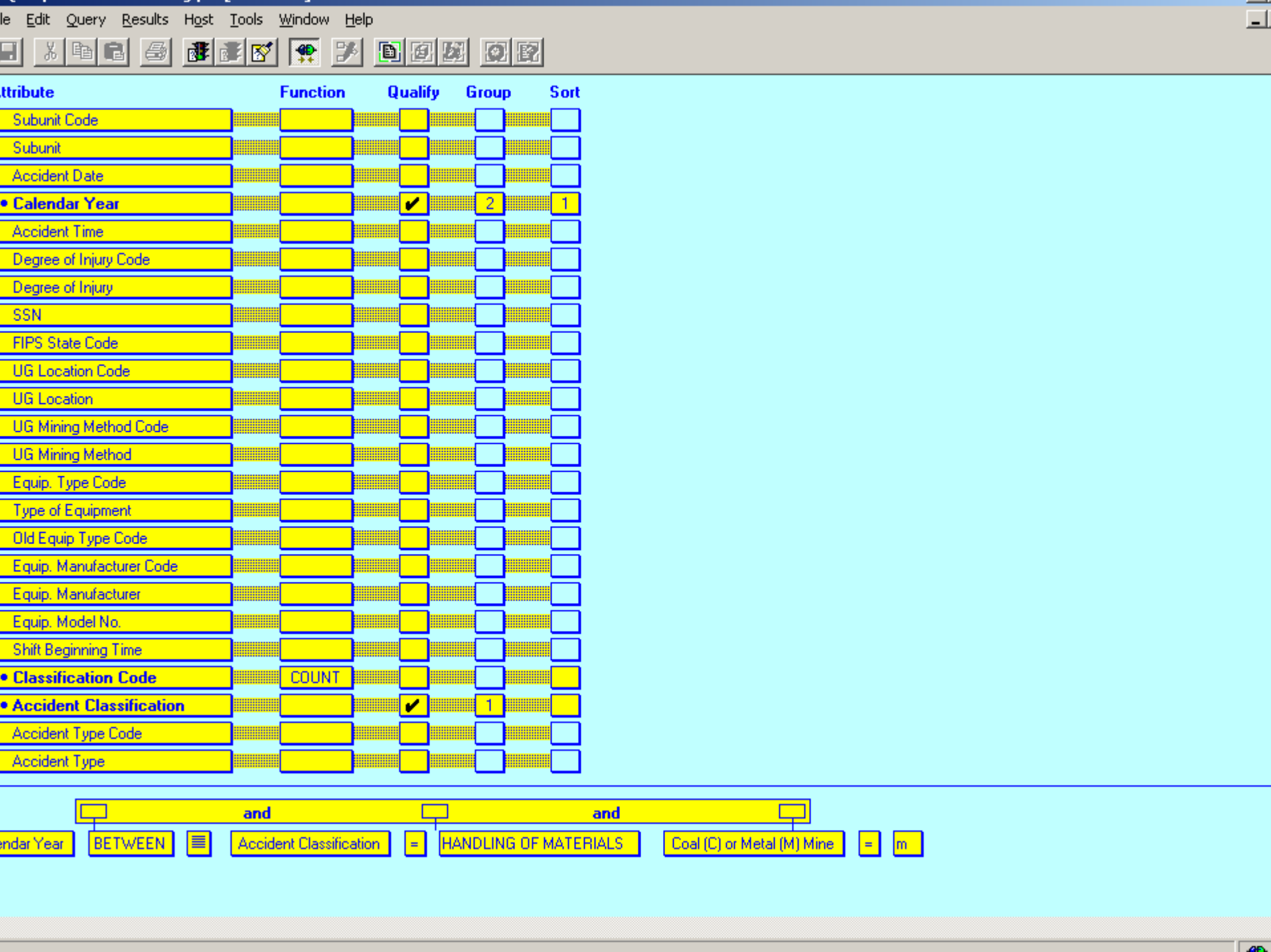
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UG Location
UG Mining Method Code
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Coal (C) or Metal (M) Mine
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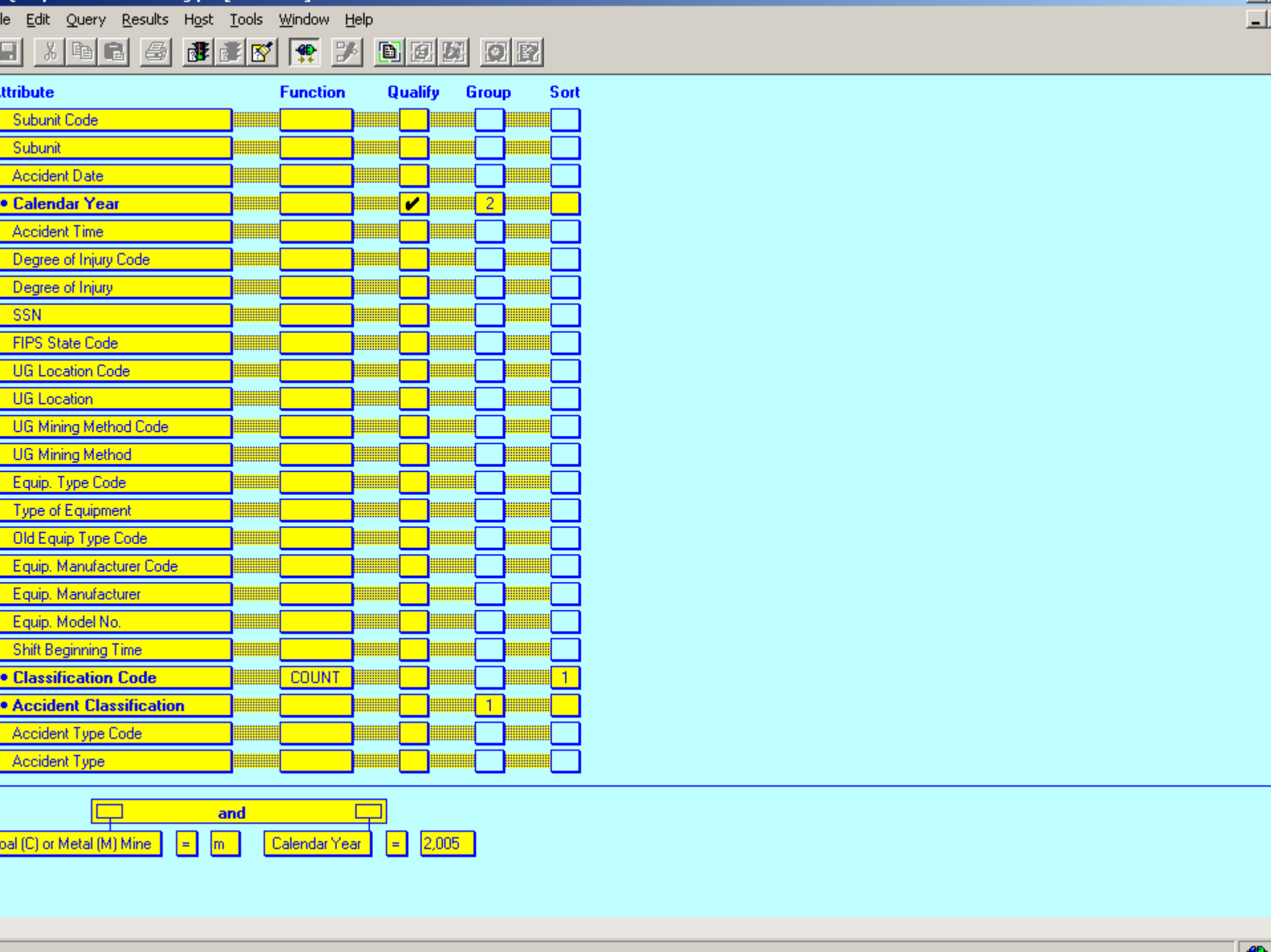
| | Accident Classification | Calendar Year | COUNT Classification Cod |
|---|---|---|---|
| 1 | HANDLING OF MATERIALS | 2000 | 3433 |
| 2 | HANDLING OF MATERIALS | 2001 | 3222 |
| 3 | HANDLING OF MATERIALS | 2002 | 2890 |
| 4 | HANDLING OF MATERIALS | 2003 | 2613 |
| 5 | HANDLING OF MATERIALS | 2004 | 2591 |
| 6 | HANDLING OF MATERIALS | 2005 | 753 |

# Accidents by Classifications

- Handling Materials 4,269 injuries 0 Fatals
  - Overexertion (45%)
- Slips/Trips/Falls 2,708 injuries 7 Fatals
  - Walking/Running (25%)

# Accidents by Work Activity

- Machine Maintenance & Repair 20%
- Handling Supplies & Materials 19%
- Hand Tools 12%
- Climbing On/Off Equipment 9%
- Walking/Running 7%
- Operating Mobile Equipment 7%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Accident Time
Degree of Injury Code
Degree of Injury
SSN
FIPS State Code
UG Location Code
UG Location
UG Mining Method Code
UG Mining Method
Equip. Type Code
Type of Equipment
Old Equip Type Code
Equip. Manufacturer Code
Equip. Manufacturer
Equip. Model No.
Shift Beginning Time
• Classification Code
COUNT
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oal (C) or Metal (M) Mine
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ry completed: 5/19/2005 12:55:39 PM
ed by descending COUNT Classification Code

| | Accident Classification | COUNT Classification Code |
|---|---|---|
| 1 | HANDLING OF MATERIALS | 753 |
| 2 | SLIP OR FALL OF PERSON | 484 |
| 3 | HANDTOOLS (NONPOWERED) | 311 |
| 4 | MACHINERY | 272 |
| 5 | POWERED HAULAGE | 171 |
| 6 | OTHER | 81 |
| 7 | DISORDERS (REPEATED TRAUMA) | 30 |
| 8 | STEPPING OR KNEELING ON OBJECT | 29 |
| 9 | HOISTING | 27 |
| 0 | ELECTRICAL | 23 |
| 1 | STRIKING OR BUMPING | 18 |
| 2 | FALL OF ROOF OR BACK | 13 |
| 3 | FALLING/SLIDING/ROLLING MATERIALS | 11 |
| 4 | FIRE | 11 |
| 5 | INUNDATION | 7 |
| 6 | FALL OF FACE/RIB/PILLAR/SIDE/HIGHWALL | 6 |
| 7 | IGNITION OR EXPLOSION OF GAS OR DUST | 6 |
| 8 | ALL OTHER OCCUPATIONAL ILLNESSES | 4 |
| 9 | EXPLODING VESSELS UNDER PRESSURE | 4 |
| 20 | POISONING (TOXIC MATERIALS) | 3 |
| 21 | OCCUPATIONAL SKIN DISEASES | 3 |
| 22 | NONPOWERED HAULAGE | 3 |
| 23 | EXPLOSIVES AND BREAKING AGENTS | 2 |
| 24 | IMPOUNDMENT | 2 |
| 25 | DISORDERS (PHYSICAL AGENTS) | 1 |
| 26 | RESPIRATORY CONDITIONS (TOXIC AGENTS) | 1 |

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| ttribute | Function | Qualify | Group | Sort |
|---|---|---|---|---|
| Occup Code 2 Digit | | | | |
| UG/Surf Occup | | | | |
| Occupation | | | | |
| Old Occupation Code | | | | |
| Activity Code | | | | |
| Miner Activity | | | | |
| Injury Source Code | | | | |
| Source of Injury | | | | |
| Nature of Injury Code | | | | |
| Nature of Injury | | | | |
| Body Part Code | | | | |
| • **Body Part** | | | | |
| Schedule Charge (Days) | | | | |
| Days Restricted Duty | | | | |
| Days Lost | | | | |
| Transferred or Terminated | | | | |
| Return to Work Date | | | | |
| Immediate Notification Code | | | | |
| Immediate Notification Class | | | | |
| Event No. | | | | |
| Investigation Begin date | | | | |
| • **Narrative** | | | | |
| Add Cycle No. | | | | |
| Change Cycle No. | | | | |

**and**

| oal (C) or Metal (M) Mine | = | m | Calendar Year | = | 2,004 |
|---|---|---|---|---|---|

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ry completed:

| | Degree of Injury | Body Part | Narrative |
|---|---|---|---|
| 7 | NO DYS AWY FRM WRK,NC | EAR(S) INTERNAL & EXTERNA | WORKER WAS CUTTING METAL WITH A CUTTING TORCH WHEN THE HOT METAL POPPED AND WENT INTO HIS LEFT EAR. |
| 8 | NO DYS AWY FRM WRK,NC | FINGER(S)/THUMB | EMPLOYEES WERE COMPRESSING A FEEDER SPRING, STRAPPED THE SPRING IN THE COMPRESSED MODE. ONE OF THE S |
| 9 | DAYS AWAY FROM WORK ( | BODY SYSTEMS | Approx. 10 am a power pole near the slurry wash out station arced and popped. Someone noticed sparks from the pole. At 3:00 pm our em |
| 0 | NO DYS AWY FRM WRK,NC | MOUTH/LIP/TEETH/TONGUE | WHILE WORKING ON A BOBCAT GRINDER BLEW UP IN FACE STRIKING UPPER LIP CAUSING A CUT THAT REQUIRED STITCH |
| 1 | DAYS AWAY FROM WORK ( | SHOULDERS (COLLARBONE/ | EE was climbing the dump bed when his foot slipped. Instead of letting go, he tried to pull himself up. He dislocated his shoulder. |
| 2 | DAYS AWAY FROM WORK ( | FINGER(S)/THUMB | EE WAS IN PROCESS OF REMOVING IMPELLAR FROM SHAFT.EE HAD LEFT HAND UNDER THE IMPELLER WHEN THE IMPELL |
| 3 | DYS AWY FRM WRK & RES | WRIST | CLIMBING LADDER TO CRUSHER, SLIPPED, FELL, PUT HAND OUT TO BRACE FALL. |
| 4 | DYS AWY FRM WRK & RES | TRUNK, MULTIPLE PARTS | CRANE BOOM WAS LIFTING CRUSHER FEEDER. COMBINATION OF LIFT AND WIND PUSHED FEEDER TOWARD AND AGAINST |
| 5 | DAYS AWAY FROM WORK ( | KNEE/PATELLA | Employee was adjusting the position of an iron chute on a pair of sawhorses when the sawhorse moved and the chute fell against the emp |
| 6 | DAYS AWAY FROM WORK ( | HIPS (PELVIS/ORGANS/KIDN | LIFTING A PART. |
| 7 | INJURIES INVOLVNG NONE | NECK | ON FEB. 10, 2004 CUSTOMER STOPPED AT THE SCALE HOUSE & WEIGHED HIS TRUCK & BELLY DUMP. AT APPROXIMATELY |
| 8 | NO DYS AWY FRM WRK,NC | ARM,NEC | EE were attempting to walk the track back onto the right track.Two slivers of metal flew off & hit the ee. 1 piece hit his shirt & other stuck ir |
| 9 | DAYS RESTRICTED ACTIVI | FINGER(S)/THUMB | WHILE RETRIEVING THE CORE FROM A 45 DEGREE UPHOLE, EMPLOYEE UNSCREWED THE STUFFING BOX. THE OVERSHOT |
| 20 | NO DYS AWY FRM WRK,NC | MOUTH/LIP/TEETH/TONGUE | EE WAS HEADING DOWN THE MAIN IN A TRUCK WHEN HE APPARENTLY HIT A BUMP CAUSING HIS CAP LAMP TO DISLODGE |
| 21 | DAYS AWAY FROM WORK ( | SHOULDERS (COLLARBONE/ | Employee was filling and stacking 100 lb. bags on pallets when he experienced pain in his right shoulder. |
| 22 | NO DYS AWY FRM WRK,NC | BACK (MUSCLES/SPINE/S-CO | WHILE WORKING ON A 4' FLOURESCENT LIGHT FIXTURE, THE REFLECTOR ON THE FIXTURE STARTED TO FALL & AS EE REA |
| 23 | DAYS AWAY FROM WORK ( | EYE(S) OPTIC NERVE/VISON | Worker was welding in a chute, positioned on his side. A piece of hot slag entered his helmet and hit him in the right eye. It burned his eye |
| 24 | DAYS RESTRICTED ACTIVI | FINGER(S)/THUMB | THE SCREEN BOX AT THE CRUSHER BROKE DOWN SENDING OVER SIZED ROCKS TO THE TUNNEL FEED, STOPPING IT UP. |
| 25 | DAYS AWAY FROM WORK ( | LOWER EXTREMITIES, MULT | WHILE ADJUSTING THE DECK BUSHING ON #579 DRILL, THE HOIST BRAKE SLIPPED CAUSING EE TO JUMP OUT OF THE WA |
| 26 | DAYS RESTRICTED ACTIVI | BACK (MUSCLES/SPINE/S-CO | WHILE PLACING 4 X 8' 3/8" STEEL PLATE ON ASSIGNED JOB, FINGER GOT PINCHED. EMPLOYEE USED HIS LEFT HAND TO LI |
| 27 | DAYS AWAY FROM WORK ( | KNEE/PATELLA | WHILE WORKING ON #3 WET DUST COLLECTOR, EE WAS DESCENDING SOME STAIRS & SLIPPED TWISTING HIS LT. KNEE. E |
| 28 | DAYS RESTRICTED ACTIVI | MULTIPLE PARTS (MORE TH | EE WAS SITTING IN THE TAMROCK BOLTER WHEN A LARGE BOULDER FELL OUT OF THE BACK AND CRUSHED THE CAB DO |
| 29 | NO DYS AWY FRM WRK,NC | EYE(S) OPTIC NERVE/VISON | Employees were welding a broken rack gear tooth inside the tub of #2 dragline. The injured employee was assisting with fire watch duties. |
| 30 | NO DYS AWY FRM WRK,NC | HAND (NOT WRIST OR FINGE | mechanic started acetylene/oxygen blow torch, heard loud popping sound, turned it off, it "blew up" near hose. his left palm, side and bac |
| 31 | DAYS RESTRICTED ACTIVI | ANKLE | Employee and co-worker were carrying a 2/0 motor cable with cable coupler from the motor sled to the Pit Car for reconnection. Injured em |
| 32 | DAYS AWAY FROM WORK ( | HAND (NOT WRIST OR FINGE | The ee was cutting down a urathane rubber screen when the knife slipped cutting his right hand below his thumb. |
| 33 | NO DYS AWY FRM WRK,NC | BACK (MUSCLES/SPINE/S-CO | While attempting to open a water valve at the feed end of #5 rod mill, ee felt a sharp pain in his lower back. |
| 34 | DAYS AWAY FROM WORK ( | FINGER(S)/THUMB | HARVESTING ROCK, ROCK FELL AND SMASHED HIS FINGER. |
| 35 | NO DYS AWY FRM WRK,NC | ELBOW | WALKING BACKWARDS AND PULLING POWER CABLE, EE TRIPPED OVER A ROCK AND FELL LANDING ON HIS LEFT ELBOW C |
| 36 | DYS AWY FRM WRK & RES | HIPS (PELVIS/ORGANS/KIDN | CHANGING A SPRAY BAR NOZZEL, HE WAS LYING OVER A TUBE PULLING ON A PIPE WRENCH WHEN HE PULLED A MUSCLE |
| 37 | DYS AWY FRM WRK & RES | BACK (MUSCLES/SPINE/S-CO | Employee was assisting with restaking some bags that fell of a pallet during the night, onto a new pallet. He was not using proper body alig |
| 38 | DYS AWY FRM WRK & RES | NECK | EE WAS PUNCHING LUMPS IN BIC TUNNELS USING A BAR IN A FEEDER. HE FELT SOMETHING POP IN HIS NECK AND SHOUL |
| 39 | NO DYS AWY FRM WRK,NC | FINGER(S)/THUMB | WHILE PUTTING BUSHING IN A HEAD PULLEY - TIGHTENING BOLTS. HEAD PULLY SLIPPED ACROSS FORKLIFT BARS CATCHI |
| 40 | DAYS AWAY FROM WORK ( | BACK (MUSCLES/SPINE/S-CO | EE was putting the bit for a rockbuster on Equipment #2514 back on. EE was physically reinstalling without the aid of operator. While liftin |
| 41 | DAYS AWAY FROM WORK ( | FOREARM/ULNAR/RADIUS | MOVING 50 # BAGS OF ANFO FROM FRONT OF TRAILER TO REAR. TORE MUSCLE AND LIGAMENT IN UPPER RIGHT FOREARM |

# Maintenance – Repair - Construction

5,078 Injuries

- a. Machine Maintenance/Repair
- b. Hand Tools (not powered)
- c. Surface Construction NEC
- d. Welding and Cutting Elect/Acetyl
- e. Hand Tools (powered)
- f. Moving Equipment (Fans/Pumps/etc.)
- g. Grinding Bits/Steel/Welds
- h. Electrical Maintenance/Repair
- i. Operate Hoist
- j. Working with Chemicals
- k. Working with Noxious Materials

# U.S. DOL, MSHA, National Mine Health and Safety Academy

## 1.4 Background

Introduction

### Background

This project was developed as part of the alliance between MSHA (U.S. Department of Labor, Mine Safety & Health Administration)

and the NATIONAL STONE, SAND & GRAVEL ASSOCIATION

in cooperation with Vulcan Materials Company

This Material Handling course represents a pilot project as part of a proposed series of courses on Maintenance, Construction, and Repair topics. Vulcan Materials Company is working with MSHA to develop additional course materials.


Alliance - News Release No. 03-66

Mine Safety and Health Administration

National Stone, Sand and Gravel Association

Vulcan Materials Company

U.S. DOL, MSHA, National Mine Health and Safety Academy

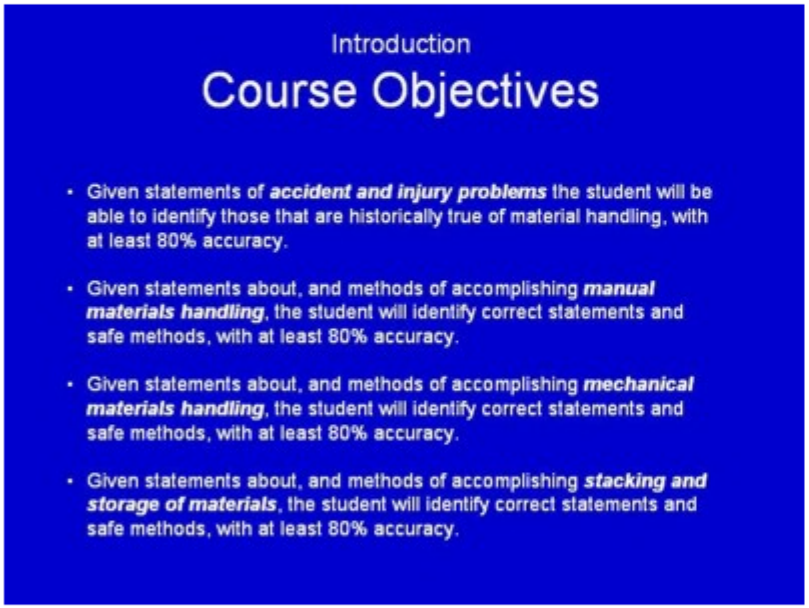
# Material Handling Safety

This self-paced, interactive training program has been adapted from an extensive PowerPoint presentation. It includes manual and mechanical material handling and storage at surface mines, mills, and plants.

NOTE: This information is available in other formats on CD-ROM from the National Mine Health and Safety Academy. The CD includes a PowerPoint version for presentation with full-screen visuals and/or on computers that are not connected to the internet, as well as a booklet form of the material in Microsoft Word.

Click  to continue.

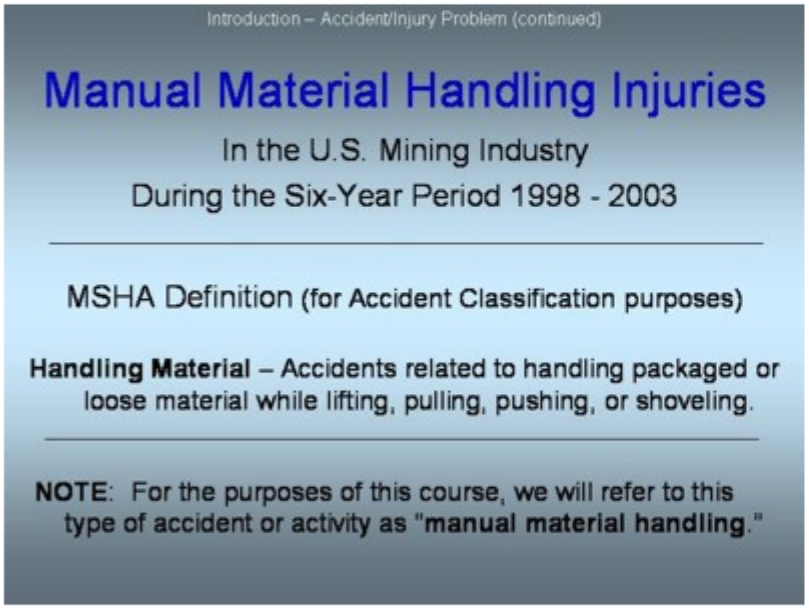
## 1.8 Course Objectives




Chapter quizzes and a test for the whole program are included. They are just to help you learn the material. Results are not collected.

# U.S. DOL, MSHA, National Mine Health and Safety Academy

## 1.11 Definition

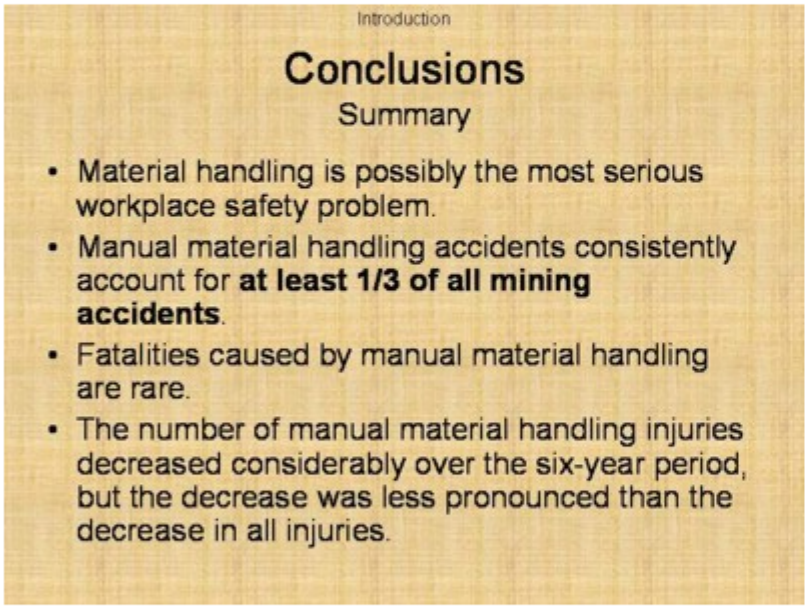



To help determine the scope of the problem with manual material handling, injury statistics were examined over a six-year period.

Based on MSHA's accident classification system, "Handling Material" accidents are those described by this definition. You can see that it covers manual material handling. Another way to describe it is "transporting or supporting of loads by hand or by bodily force."

# U.S. DOL, MSHA, National Mine Health and Safety Academy

## 1.14 Conclusions

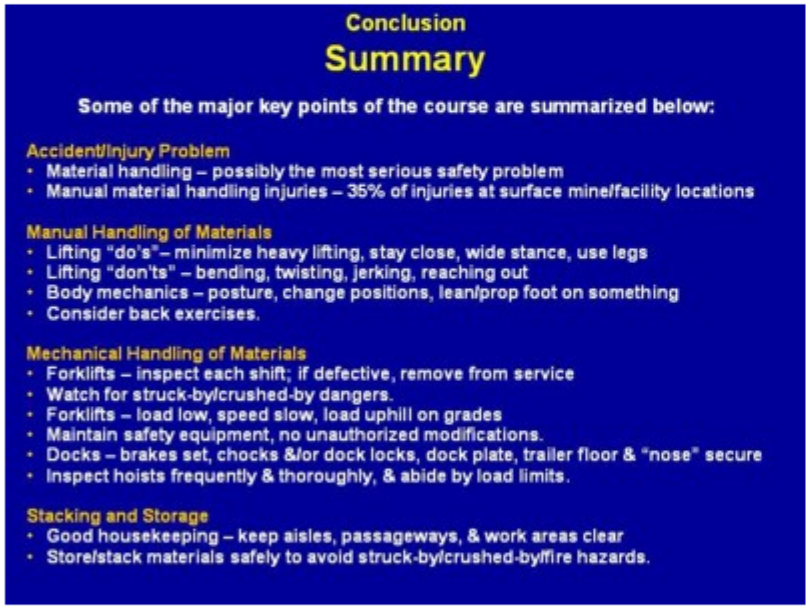



The most important thing to note here is that material handling, even when we look only at manual material handling, comprises a major portion of the mining accidents. Progress in this accident category would have a large impact on the overall accident picture.

On a more personal level, it is important to remember that a great deal of pain and suffering is caused by the strains, sprains, and other types of material handling injuries.

# U.S. DOL, MSHA, National Mine Health and Safety Academy

## 5.1 Course Summary




**Accident/Injury Problem**

- Material handling is often considered the most serious safety problem in the nation.
- Manual handling accidents consistently account for at least 1/3 of all mining accidents.

**Manual Handling of Materials**

- Obtain help (human or mechanical) and/or split heavy loads if possible.
- Use wide stance and bend your knees (but not deeply). Keep load close.
- Keep back straight and as vertical as you can. Lift slowly with leg power.
- Avoid bending over with knees straight and lifting with upper torso.
- Also avoid twisting, jerky movement, and reaching out with load.
- Maintain good posture when standing, walking, sitting, or driving.
- Take breaks/change position often when standing, sitting, or driving.
- Lean on something and/or prop up a foot when standing.
- Consider back exercises to improve strength and flexibility.

**Mechanical Handling of Materials**

- Inspect forklifts at beginning of each shift. If damaged/defective, remove from service until repaired.
- Watch for potential struck-by and crushed-by dangers.
- Keep forklift loads low when traveling. Keep speed low, and keep load uphill on grades.
- Maintain safety equipment. Don't make unauthorized modifications or exceed capacity.
- At loading docks place an appropriate dock plate; be sure brakes are set, wheels chocked and/or dock lock in use; inspect floor of trailer; and

The online version is on MSHA's public website.

Go to www.msha.gov
On the right (under Education and Training) click on
Interactive Training Products
(It's the first one on the list)

Or here's the link to take you straight into the course:
http://www.msha.gov/InteractiveTraining/MaterialHandlingSafety/index.htm

# Special Emphasis Program

- Emphasis Areas
  - Materials Handling
  - Slips, Trips, & Falls
  - Electricity
  - Hand & Power Tools
  - Welding & Cutting

# Special Emphasis Program

- Committee Tasks
  - Use baseline number of injuries
  - Track & report progress
  - Set achievable goals
  - Tie to Safety Pledge Goal
    - Reduce accidents 50% by end of 2007

# Special Emphasis Program

- Design strategies & tools to improve awareness of:
  - How are injuries occurring
  - Why are they occurring
  - Preventative measures
    - Best Practices
    - Training Tools
    - Workable Ideas
    - Safety Tips
    - Observation Checklists

# Special Emphasis Program

- Major Messages to Mining Community
  - Plan & use safe work practices
    - **RISK ASSESSMENTS**
  - Use & maintain safe equipment
  - Emphasize strong supervision & leadership
  - Verify that miners are trained and competent
    - **AUDITS & INSPECTIONS**

Rough Draft

# MSHA/NSSGA Safety Bulletin

## Welding and Cutting Safety at Aggregate Mines

Welding and cutting accidents are responsible for a significant number of injuries on mines site. There were 51 incidents reported during the first half of 2005. Though none of these incidents resulted in a fatality, 21 suffered injuries significant enough to cause days away from work. Here's how it looks:

(25) Burns
(09) Flash burn
(08) Foreign body in eye
(04) Pinch
(03) Laceration
(02) Difficulty breathing/nausea

**BURNS:** Major cause was slag. Burns were primarily to ears! Others were the result of slag reaching the skin through unsecured sleeves, gloves, and boots.

**FLASH/ARC BURNS** can be an accumulated injury. Damage can be done even if it doesn't hurt right away.

- Working together? Use curtains or barrier shields to prevent double hazard exposure.

**EYE INJURIES:** Most were wearing safety glasses. That is just not enough. If hot slag can find even the smallest opening around your eyes, you will likely suffer. Use safety glasses and a welding shield.

**PINCH/LACERATIONS**: Prior to beginning work, generously secure pieces to be cut or welded.

**SLAG**

If it can reach your skin - IT WILL BURN YOU.

- Make sure skin is well covered- ESPECIALLY YOUR EARS!
- Consider wearing full leather sleeves.

Alliance

An MSHA Cooperative Partnership

NATIONAL STONE, SAND & GRAVEL ASSOCIATION

*Natural building blocks for quality of life*