A logo for mineral and petroleum research

AI-generated content may be incorrect.

**SAMRASS 3**

ADDENDUM ON ROCKBURST AND FALL OF GROUND ACCIDENTS

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| ***SECTION A: DETAILS OF MINE*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mine code | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name of mine | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mine accident or dangerous occurrence number | | | | | | | | | | | | | | | | | | YEAR | | | | | | | | | | | | | | | ACC /DO REF NO | | | | | | | | | | | | | | | | | | | | | | | | | | | Shaft | | | | | | | | | | | | | | | | | |
| Y | | Y | | | | | Y | | | Y | | | | | N | | | | N | | | | | N | | | | | | | | | N | | | | | | | | | S | | | | | | | | | | | | | | S | | | |
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| Activity |  |  | | |  | | Date of accident or dangerous occurrence | | | | | | | | | | | | | | | | | | | | | | | Y | | | | Y | | | | Y | | | | Y | | | | | | M | | | | | | | M | | | | | | | | | D | | | | | | | | | | | D | | |
|  | | | |  | | | |  | | | |  | | | | | |  | | | | | | |  | | | | | | | | |  | | | | | | | | | | |  | | |
| Cause of accident | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | |  | | | | | |  | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | |
| Depth below surface | | | | | | | | | | | | | | | | | | |  | | |  | | m | | | Mining method | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | |
| ***SECTION B: DETAILS OF ACCIDENT*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *B.1. LOCATION* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Description of working place | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | |  | | | | | | |  | | | | | | | | | |  | | | | | | | | |
| Distance from face | | | | | |  | |  | |  | |  | | m | | Distance from panel bottom strike gully | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | |  | | | | | |  | | | | | | | |  | | | | | | | | m | | | | | | | |
| Dimensions of stope | | | Strike span | | | | | |  | |  | |  | | m | | Dip spa | | | |  | |  | | |  | | | m | | | Stog | | | | | | | |  | | | | |  | | | |  | | | | | |  | | | | | | | |  | | | | | | | | | | m | | | | |
| Dimensions of other excavations | | | Height | | | | | |  | |  | |  | | m | | Width | | | |  | |  | | |  | | | m | | | Length | | | | | | | |  | | | | |  | | | |  | | | | | |  | | | | | | | |  | | | | | | | | | | m | | | | |
| Distance from reef | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | |  | | | | | | | | | | | m | | | | | |
| *B.2. SITE DESCRIPTION* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Quality of excavation: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| *B.3. TEMPORARY SUPPORT* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *B.3.1. ACCORDING TO CODE OF PRACTICE* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of support | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | |  | |
| Size of support | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |  | | | |  | | | | |  | | | | | |  | | | | | | |  | | | | | | | | | |  | | | | | | | | | m | |
| Spacing of support | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |  | | | |  | | | | |  | | | | | |  | | | | | | |  | | | | | | | | | |  | | | | | | | | | m | |
| Rows of support | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | |  |
| Distance from face | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |  | | | |  | | | | |  | | | | | |  | | | | | | |  | | | | | | | | | |  | | | | | | | | | m | |

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| *B.3.2. OBSERVED AFTER ACCIDENT* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of support | | | | | | | | | | | | | | | | | | | |  | | | | |  | | |
| Size of support | | |  | |  | | | |  | |  | | |  | | | |  | | | |  | | | | m | |
| Spacing of support | | |  | |  | | | |  | |  | | |  | | | |  | | | |  | | | | m | |
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| Distance from face | | |  | |  | | | |  | |  | | |  | | | |  | | | |  | | | | m | |
| *B.4. PERMANENT SUPPORT* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *b.4.1.according to code of practice* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of support | | | | | | | | | | | | | | | | | | | | |  | | | | | |  |
| Size of support | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| Spacing of support | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| Distance from face | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| *B.4.2.OBSERVED AFTER ACCIDENT* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of support | | | | | | | | | | | | | | | | | | | | |  | | | | | |  |
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| Spacing of support | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| Distance from face | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| *B.5.REGIONAL SUPPORT* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *B.5.1.ACCORDING TO CODE OF PRACTICE* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of support | | | | | | | | | | | | | | | | | | | | |  | | | | | |  |
| Size of support | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| Spacing of support | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| *B.5.2.OBSERVED AFTER ACCIDENT* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of support | | | | | | | | | | | | | | | | | | | | |  | | | | | |  |
| Size of support | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| Spacing of support | | | |  | |  | | | |  | | |  | |  | | | |  | | | | |  | | | m |
| Comments on support | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Comments on effective use | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *B.6.INSTRUMENTATION* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Instrument | Code | Warning signal | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  | | | | | | YES | | | |  | | | | | NO | | | | | |  | | | | |
|  |  |  | | | | | | YES | | | |  | | | | | NO | | | | | |  | | | | |
|  |  |  | | | | | | YES | | | |  | | | | | NO | | | | | |  | | | | |
|  |  |  | | | | | YES | | | |  | | | | | NO | | | | | | |  | | | | |
|  |  |  | | | | | YES | | | |  | | | | | NO | | | | | | |  | | | | |
|  |  |  | | | | | YES | | | |  | | | | | NO | | | | | | |  | | | | |

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| *B.7.GEOLOGICAL DETAILS* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reef being mined | | | | | | | | | Code | | | | | | | | | | | |  | | | | | | | | |  | | | | | | |  | | | | | | | Description | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rock type | |  | | | | | | | | | | | Code | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | U.C.S. strength | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Immediate hanging wall | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | MPa | | | | | | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | | |
| Immediate footwall | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | MPa | | | | | | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | | |
| Reef/ ore | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | MPa | | | | | | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | | |
| Relevant geological structure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | |
| Shortest distance from to disturbance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | | m | | | | | | | | |
| Comment on distance: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Measured or estimated field stress state | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | | |
| Induced fractures | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | |
| *B.8.FALL OF GROUND* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dimensions of fall | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Height | | |  | | |  | | | | |  | | | | | m | | | | | | | Width | | | | | | | | | | | | | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | m | | | | | Length | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | | | |  | | | | | | | | |  | | | | | | | | |  | | | | | | | | | | | m | |
| Boundaries of fall | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *B.9.ROCKBURST* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total size of affected area | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | |  | | | | | | m² | | | | | | | | Estimated maximum closure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | | | | | |  | |
| *B.9.1.EXTENT OF DAMAGE* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hanging wall damage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | | m² | | | | | | | | |
| Footwall damage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | | m² | | | | | | | | |
| Sidewall damage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | | m² | | | | | | | | |
| Roof support units damaged | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | |  | | | |
| Suspected bursting mechanism | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
| Suspected mechanism based on | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
| Distance between hypocentre and rockburst damage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | | |  | | | | | | | | | | | m | | |
| *B.10.GENERAL MINE LAYOUT* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mine layout | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Code | | | | | | | | | | | | | | | | | | | | | | | | | | | | Contribute | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| ***SECTION C: SEISMIC EVENT DETAIL*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reference number | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | |  | | | |  | | | | | |  | | | | | |  | | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | | |  | | | | | | | | | | |  | |
| Hypocentre (m) | | | | |  | | | | | X | | | |  | | | | | | Y | | | | | | | | |  | | | | | | | Z | | | | | |  | | | | | | |  | | | | |  | | | |  | | | | | |  | | | |  | | |  | | | |  | | | |  | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | |  | | | | |
| Location error | | | | | | | | | | | | | | |  | | | | | | |  | | | | | | | | |  | | | | | | |  | | | | | | |  | | | | | | | m | | | | | Location magnitude | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | |
| Time | H | | | H | | | |  | | | | M | | | | | M | | | | | | | Seismic moment (Nm) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | |
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| Energy radiated: p-wave (J) | | | | | | | | | | | | | | |  | | | | | | |  | | | | | | | | |  | | | | | | |  | | | | | | |  | | | | | | | Energy radiated: s-wave (J) | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | |
| Source radius (m) | | | | | | | | | | | | | | |  | | | | | | |  | | | | | | | | |  | | | | | | |  | | | | | | |  | | | | | | | Corner frequency (Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | |
| Static stress drop (Mpa) | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | |  | | | | | |  | | | | | | Dynamic stress drop (Mpa) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | |
| Peak acceleration (g) | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | |  | | | | | |  | | | | | | Peak velocity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | |
| Displacement (cm) | | | | | | | | | | | | | | | | | | |  | | | | | | | | |  | | | | | | |  | | | | | |  | | | | | | Duration (sec) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | |  | | | | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | |
| *C.1. SEISMIC MOMENT RELEASED* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *C.1.SEISMIC MOMENT RELEASED* | | | | | | | | | | | | | | | | | | | | | | | | | 1 WEEK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 MONTH | | | | | | | | | | | | | | | | | | | | | | | | | | | | AVERAGE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Per 1 m of face advance (Nm/m) | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | |  | | | | | | |  | | | |  | | | | | | |  | | | | |  | | | | |  | | | | |  | | | |  | | |  | | | | |  | | | |  | | | | | | |  | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | | |  |
| Per 1 t of rock output within 300 m radius | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | |  | | | | | | |  | | | |  | | | | | | |  | | | | |  | | | | |  | | | | |  | | | |  | | |  | | | | |  | | | |  | | | | | | |  | | | | | |  | | | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | | | | |  |

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| ***SECTION D: SEISMIC HISTORY*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Within 300 m radius of scene of the accident | | | | | | | | | | | | | | Magnitude | | | | | | | | | | | | | | | | | | | |
| History detail | | <0 | | | | | | | 0-1 | | | | | | | | 1-2 | | | | | | | | >2 | | | | | | | TOTAL | |
| 1 DAY BEFORE ACCIDENT | 1. Number of seismic events |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Energy released: p-wave (J) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Energy released: s-wave (J) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Seismic moment released (Nm) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Static stress drop (Mpa) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Max energy index (E-obs/E-expec) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1 WEEK BEFORE ACCIDENT | 1. Number of seismic events |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Energy released: p-wave (J) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Energy released: s-wave (J) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Seismic moment released (Nm) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Static stress drop (Mpa) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Max energy index (E-obs/E-expec) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 6 MONTHS BEFORE ACCIDENT | 1. Number of seismic events |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Energy released: p-wave (J) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Energy released: s-wave (J) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Seismic moment released (Nm) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Static stress drop (Mpa) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| 1. Max energy index (E-obs/E-expec) |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |

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| *D.1. BEFORE ACCIDENT* | | | | | | | | | | | | | | | | | | | |
| 1 WEEK | | | | | | 1 MONTH | | | | | | AVERAGE FOR LAST 6 MONTHS | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  |  |
| ***E. COMPLETED BY*** | | | | | | | | | | | | | | | | | | | |
| Name | | |  | | | | | | | | | | | | | | | | |
| Signature | | |  | | | | | | | | | | Date | | |  | | | |