

**ADDENDUM ON ROCKBURST AND FALL OF GROUND ACCIDENTS (SAMRASS 3)**

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| ***SECTION A: DETAILS OF MINE*** |
|  DMR 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  |
|  ACTIVITY |  |  |  |
|  DATE OF ACCIDENT OR DANGEROUS OCCURRENCE (use YYYY/MM/DD format) | Y  | Y  | Y  | Y  | M  | M  | D  | D  |
|  CAUSE OF ACCIDENT |   |   |   |   |
|  DEPTH BELOW SURFACE (M) |   |   |
|  MINING METHOD |   |   |

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| ***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 |   |   |   | LENGHT |   |  |   |   |   |
|  DISTANCE FROM REEF (M) |   |   |
| B.*2. SITE DESCRIPTION* |
|  QUALITY OF EXCAVATION:      |
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| *B3 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) |   |   |   |   |   |   |   |
| *B.3.2. OBSERVED AFTER ACCIDENT* |
|  TYPE OF SUPPORT |   |   |
|  SIZE OF SUPPORT (M) |   |   |   |   |   |   |   |
| SPACING OF SUPPORT |   |   |   |   |   |   |   |
|  ROWS OF SUPPORT |   |   |
|  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 |   |   |
|  SIZE OF SUPPORT (m) |   |   |   |   |   |   |   |
|  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 |
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| *B.6.INSTRUMENTATION* |
| INSTRUMENT | CODE | WARNING SIGNAL |
|       |   |   | YES  | NO  |
|       |   |   | YES  | NO  |
|       |   |   | YES  | NO  |
|       |   |   | YES  | NO  |
|       |   |   | YES  | NO  |
|       |   |   | YES  | NO  |
| *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: |
|       |
|  |
|  |
| MEASURED OR ESTIMATED FIELD STRESS STATE |   |   |   |
| INDUCED FRACTURES |   |
| *B.8.FALL OF GROUND* |
| DIMENSIONS OF FALL | HEIGHT (m) |       |   |   |   | WIDTH (m) |   |   |   |   | LENGTH |   |   |   |   |
| 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 |
|  |   |   | YES  | NO  |
|  |   |   | YES  | NO  |
|  |   |   | YES  | NO  |
|  |   |   | YES  | NO  |
|  |   |   | YES  | NO  |
|  |   |   | YES  | NO  |
|  |
| ***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) |   |   |   |   |   |   |
| 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)
 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
| *D.1. BEFORE ACCIDENT* |
| 1 WEEK | 1 MONTH | AVERAGE FOR LAST 6 MONTHS |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|  |
| *E. COMPLETED BY* |
| NAME |   | SIGNATURE |  | DATE |  |
| DESIGNATION |   | MANAGER’S SIGNATURE |  | DATE |  |