BLAST VIBRATION MONITOR

STANDARD OPERATING PROCEDURE (SOP) FOR OPERATING THE BLAST VIBRATION MONITOR FOR ANALYSIS PURPOSES

LOCATION - FACILITY	MOSELEY MORAMORO
SUBDIVISION	MINING – OK TEDI LABORATORY
REVISED EDITION	1ST EDITION
REVIEW DATE	1ST JULY 2022
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Mining Engineering
Department

STANDARD OPERATING PROCEDURE (SOP)

FOR OPERATING VIBRATION MONITOR

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NOTE

USAGE POLICIES & INSTRUCTIONS

- This equipment can only be operated upon approval from either the Laboratory Manager or a Technical Officer, or operated with the assistance or supervision of a technical officer.

- Strict compliance to operating procedures and safety requirements is required to operate this equipment. No Exceptions for substandard practices!

- If this equipment is acting unusual while operating STOP IMMEDIATELY! Please REPORT this malfunction to the Technical Officer and discuss the severity of the fault before proceeding or tag-out as faulty equipment.

- Any accidental damage to equipment or incidents encountered while operating this equipment must be reported immediately.

EQUIPMENT DETAILS

Blast Vibration Monitor

Purpose:

This SOP ensures that the operator may operate this equipment appropriately according to the operating procedures to get accurate reliable output without damages to the equipment or causing injuries to the operator. The “Instantel Minimate Plus” Blast Vibration Monitor is used to conduct monitor and detect vibrations studies and analysis.

This Blast Vibration Monitor is composed of CPU control box and sensor and geophone that is mounted onto a prob. The recorded data log is download to a computer and analyze.

Hazards:

- Harm to bear foot out in the field.
- If it’s in a mining area there is the risk objects land on your head

Safety Requirements:

Personal Protective Equipment (PPE)

1. Safety boots
2. Hard hat (If out in the field - pit or underground)
3. Industrial Hardware Clothing (Reflector ware)

Tools & Materials Required:

Recommended Tools

1. Sharpened rod help prob to place geophone

Test Specimen Prepared

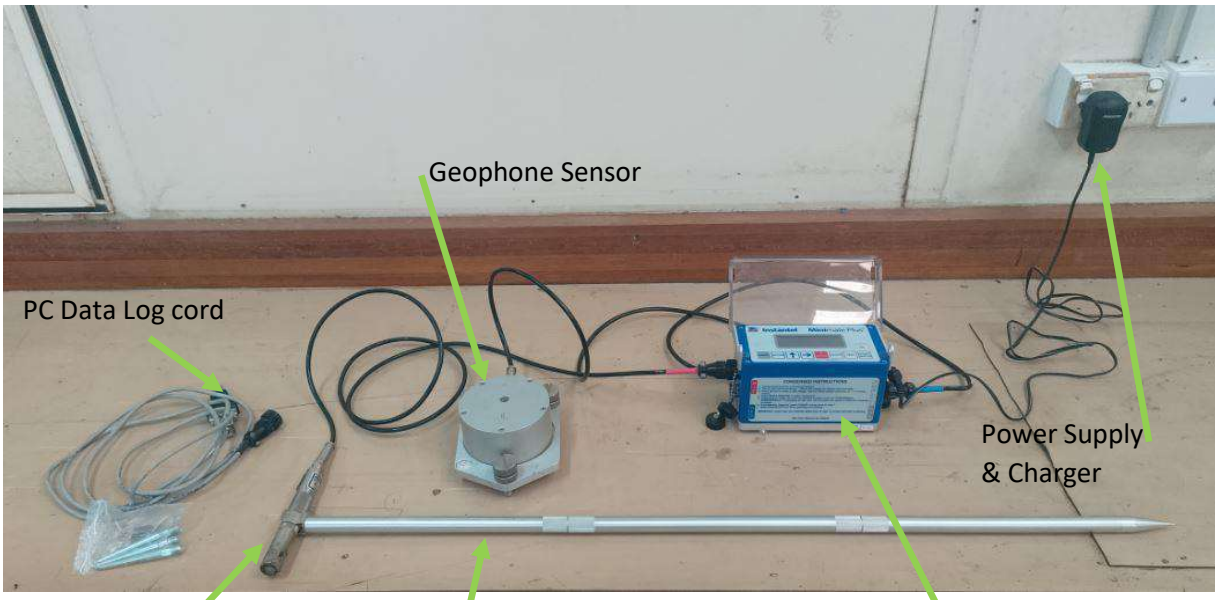
1. Insitu rock surface

Specifications

SPECIFICATIONS FOR BLAST VIBRATION MONITOR

No	Specifications	Capacities
1	Power supply	240V
2	Dimensions	110 mm x 160 mm x 150 mm
3	Software Application	MS Windows compatible
3	Rechargeable batteries	
4	Batteries	24 hours

Compositions



SETTING UP

Setting-Up Procedures

Setting up "Instantel Minimate Plus" Blast Vibration Monitor

Before operating "Instantel Minimate Plus" Blast Vibration Monitor there are few things of the equipments that needs to be set up before it can be operated.

1. Taking out the components from the case and assemble them.
2. Connect the monitor box to the power supply using the cord. It also charges the batteries while it powers the CPU in operation

3. Connect and place the Sensor on the surface, adjusting the position of the 3 stands to set on absolute level, with the level bubble positioning in the center of the circle. Unleveled position will affect the detections thus the results. There are 3 extensions for the sensor stands to pin it into soft surface if required.

4. Assemble the prob shafts and connect them to extend the shaft and then connect the geophone and clip it to the clamp on the prob shaft. Pin it into the surface, have it standing upright

5. Open the glass cover of the vibration monitor control by releasing the 2 pin clips on the sides, ready to start and operate.

OPERATING PROCEDURE

Operating Procedures

Operating "Instantel Minimate Plus" Blast Vibration Monitor

To operate the "Instantel Minimate Plus" Blast Vibration Monitor follow the procedures below.

1. Firstly, open the cover of the vibration monitor. Then, press the "ON" key once, and wait for the display to show up. The monitor display will then show that the equipments is "Ready to Monitor"

2. Before a measurement is taken, a sensor check has to be conducted. The sensor check ensures that all cables are in good working condition. To carry out a sensor check, press the "TEST" key. Then, wait for a short while.
3. The monitor will then display that all channels are working, indicating that it has passed the sensor check.

4. To prevent air vibrations to the sides of the geophone (which will cause inaccurate readings), place a sandbag on top of the geophone and spread it evenly. After placing the sandbag we are ready to take a measurement.

5. To take a vibration reading, Press the “CANCEL” key to return to the main window. The display will then show that it is “Ready to Monitor”, indicating that a measurement is ready to be taken.

6. Next, press the “START MONITOR” key to allow the instrument to enter a monitoring state. The monitor will then begin recording.
7. After a while, the display will show that it is “Ready to Monitor” again. This means that the recording session has ended.

8. To review the data that we have just recorded, Press the “UP ARROW” key to view events. The screen will then show total events recorded. In this case, a total of 34 events were recorded. To see the latest event, press the “ENTER” key.

9. Data of each event consists of a few pages. To see the next few pages continuously press on the “RIGHT” key.
10. The first page of the data will show the Peak Particle Velocity (PPV) of all channels. For this case, the highest PPV recorded is 0.19 millimeter per second. And the frequency recorded is 22 hertz.

11. Channel 4 was disabled because the microphone was not connect.

12. The next page shows the Peak Vector Sum (PVS) reading for all channels, which is 0.19 millimeter per second.
13. The final page shows the Sound Pressure Level in decibels (dB).

14. To switch off the monitor, press the red “ENTER” key and hold for a second.