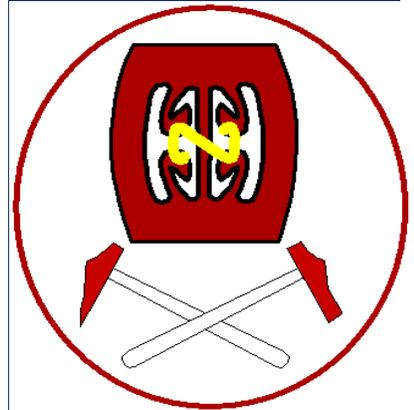




Papua New Guinea
University of Technology

Mining Engineering
Department



STANDARD
OPERATING
PROCEDURE
(SOP)

FOR
OPERATING
GOLD
DETECTOR

GOLD DETECTOR

STANDARD OPERATING PROCEDURE (SOP) FOR OPERATING THE GOLD
DETECTOR FOR GOLD DETECTION PURPOSES

LOCATION - FACILITY	MOSELEY MORAMORO
SUBDIVISION	MINING – OK TEDI LABORATORY
REVISED EDITION	1 ST EDITION
REVIEW DATE	1 ST JULY 2022
DRAFTED BY	P. RUMINTS (SENIOR TECHNICAL OFFICER)



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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

Metal Detector/Gold Scanner

Purpose:

This SOP ensures that the operator may operate this equipment appropriately according to the operating procedures to get reliable output without damages to the equipment or causing injuries to the operator. The Gold Monster 1000 is the latest model of gold scanners built to scan and enhanced detection capabilities to detect gold in the field.

This Gold Monster 1000 gold detector is designed as a modular adaptable systems with several assembled configurations. This gold detector is designed with improved capabilities and easily assembling components

Hazards:

- Footwear (appropriate for the environment in the field)

Safety Requirements:

Personal Protective Equipment (PPE)

1. Safety boots

Tools & Materials Required:

Recommended Tools

1. Magnifying lens
2. Magnet (separate magnetites)

Test Specimen Prepared

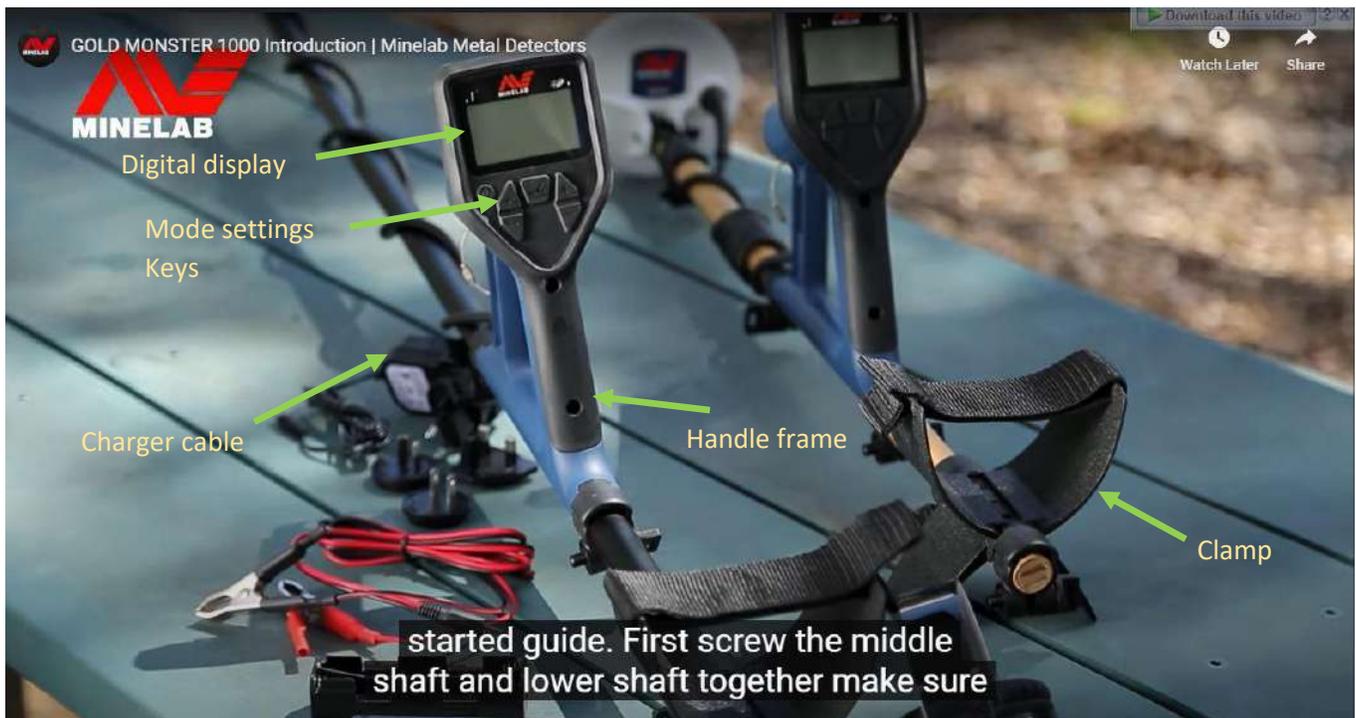
1. Gold nugget (measured weight) for calibration
2. Insitu river banks
3. Insitu dry soil surface



Specifications

COMPONENTS	DIMENSIONS
MineLab Control Box	50mm x 40mm x 40mm
	(width x height x Length)
Overall weight	0.9 kg
Rechargeable Battery	55 kN
Dry Cell Batteries	8 x AA Batteries
Coil 1	GM 10 Coil
Coil 2	GM 5 Coil

Compositions



SETTING UP

Setting-Up Procedures

Setting up Gold detector – Gold Monster 1000

The Gold Monster 1000 gold detector has two coils with respective capabilities, you can use the **GM 10** coil for greater ground coverage and depth, or the **GM 5** coil for tight spaces.



1. First, screw the middle shaft and lower shaft together. Make sure you screw them tight together.
2. The screw the middle shaft and the upper shaft together, in the same way.
3. Before you attach the coil check that the two washers are in the yoke.
4. Then use a plastic bolt to attach the assembled shaft to the coil, screwing the bolt through the yoke to the coil.



5. Using two of the shaft clamps attach the control box to the upper shaft.
6. First, slot in the first clamp down to the end of the upper shaft and clamp tight.



7. Now slot the control box along the shaft to fit into the clamp notch, ensuring the alignment and fitting freely.
8. Make sure the clamp notch is aligned with the control box notch so it fits in easily, then tighten the clamp.



9. Then slot the second clamp along the shaft/pole to lock in the control box, ensure that you align the notches on the clamp and the control box to lock it in.
10. Ensure that both clamps at both ends of the control box are both clamped tight, so that the control box doesn't swing loose on the shaft
11. Now use the remaining two clamps and bolts to attach the armrests to the shaft.
12. Then lock in with the end clamp, after the armrests is attached on to the shaft/pole.



- 13. Position the armrests just below your elbows and then tighten.
- 14. Ensure the alignment of the armrest is in line with the control box and the scanner coil at the end of the pole/shaft.



- 15. When using batteries to operate the detector, use only fully charge new high energy batteries. There are 8 (eight) AA batteries required in the battery compartment.
- 16. Insert the battery compartment with the 'MineLab' Logo facing out and up.



- 17. Slide on the battery cover into the lock position and lock in the pin.



- 18. If you prefer to use headphones while detecting then connect the headphones to control box plugin port.



19. Plug the headphone cable into the port and put on the headphone and you are set to start scanning.



OPERATING PROCEDURE

Operating Procedures

Operating Gold Detector _ Gold Monster 1000

To operate this Gold Monster 1000 gold detector there are three (3) simple steps to follow to operate the gold detector and scan. While operating the gold detector there are other features built to enhance your success rate and are explained in the end section of this SOP.

1. Press the Start Button
2. Hold the coil in the air, wait for 10 seconds for noise cancellation. Then hold it down to the ground to swing and scan.
3. Wait for the synchronized alarm to come on before you start swinging to scan.
4. The detector Gold mode is selected by default at start up.
5. This mode rejects iron/metals and detects only gold
6. When you select the Deep All Metal mode button this icon displays.
7. This mode detects gold at deeper depths from the surface but it also detects iron trash.



- 8. The Gold Chance Indicator display on the screen will respond to detection.
- 9. The gold chance indicator shows you how likely it is that a detected is gold.



- 10. You can manually adjust the sensitivity of the detector to suit the environment.
- 11. You can set to increase the sensitivity or to reduce the sensitivity



- 12. High sensitivity will detect at depth.
- 13. While Low sensitivity will detect noise and false detection.



- 14. The Volume of the detector is adjustable.
- 15. You can either increase the volume by pressing the + button to the maximum.
- 16. Or you can decrease the volume by pressing the – button to the lowest.



