



# INTERNATIONAL MINES RESCUE COMPETITION 2020

September 13-15, 2022

## Mine Rescue Skills Gas Detector

The following are examples of performance checklists (scoresheets) with merit/penalty values (scoring points). This document is being provided to the teams in advance of the 2022 IMRC for training purposes. These rule interpretations were agreed upon by Simulation Lead Judges and Simulation Judges in advance of the event.

These provided interpretations of the rules and scoring examples are for Section 9, Mine Rescue Skills Scenario/Simulation Rules

Not all scoring examples provided in this document will be used in the 2022 IMRC problem design.

TEAM NAME: \_\_\_\_\_

## SCENARIO

- Teams will be required to take a reading using an anemometer.
- Contest will provide the Industrial Scientific MX-6
- Contest will provide the required calibrating hood and hose
- Contest will provide required pen or pencil
- Contest will provide the required testing gas
- Contest will provide any required replacement sensors, etc

## Judges Instructions

### Merit Point Scoring:

- 0 = not done
- +1 = poor attempt
- +2 = needs improvement
- +3 = excellent meets all requirements

1. Every line must be scored.
2. A score of 0, 1 or 2 **must be explained** by the judges.
3. When a score of 3 is applied, comments are encouraged





**Rough Handling**

1. Rough handling demerits will be deducted from the total score
2. Judges can deduct 1 to 5 points per incident of rough handling of equipment
3. Rough handling demerits will have a maximum of 10 points
4. Rough handling deductions must be explained by the judges

**1. GAS READINGS REQUIRMENTS**

Teams will be separated into two person teams to complete this segment of the skills exercise.

0 1 2 3

Judge's Remarks:

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2. Contestant will give a brief description of how a MX-6 functions

0 1 2 3

Judge's Remarks:

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3. Contestant(s) will take the gas test in the proper order

0 1 2 3

Judge's Remarks:

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4. Contestant(s) will follow proper procedure when testing with gas detectors

0 1 2 3

Judge's Remarks

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5. Contestants will determine gas concentration within the prescribed error rate of the detector. Correct readings will be within 20% (inclusive) of the gas concentration within the test cylinder and observed on the analytical instruments 0 1 2 3

**Judge's Remarks:** \_\_\_\_\_

**GAS CONCENTRATIONS**

**METHANE**

% CH <sub>4</sub> in cylinder	Min. Accepted	Max. Accepted	% by Examiner
_____	_____	_____	_____

**CARBON MONOXIDE**

ppm CO in cylinder	Min. Accepted	Max. Accepted	ppm by Examiner
_____	_____	_____	_____

**OXYGEN DEFICIENCY**

%O <sub>2</sub> in cylinder	Min. Accepted	Max. Accepted	% by Examiner
_____	_____	_____	_____

**NITROGEN DIOXIDE**

ppm NO <sub>2</sub>	Min. Accepted	Max. Accepted	ppm by Examiner
_____	_____	_____	_____

**GAS DETECTOR TOTAL MERITS** \_\_\_\_\_

**LESS DEMERITS** \_\_\_\_\_

**GAS DETECTOR TOTAL SCORE:** \_\_\_\_\_

**WORKING TIME:** \_\_\_\_\_

