

Technical Associates - Hydrofracking Radon Portable Water Monitor System



GENERAL DESCRIPTION:

Hydrofracking releases trapped radiation, including Radon, from underground formations into mobile water flow, including groundwater, or industry generated wastewater, sludge, or brine.

Hydrofracking Radon Portable Water Monitor System, Radon-7, provides quick detection on site of Radon contamination generated by the hydrofracking process in groundwater, wastewater, sludge, and brine:



- Also detects Alpha emitters and Thorium in water samples
- Portable instrumentation provides quick response for: Roadside /Chemical Spill; Industrial Accident; Improper Dumping of Industrial Waste.

End Users: Oil and Gas Industry, First Responders, state and federal health agencies, citizen groups, municipal utilities.

TECHNICAL DESCRIPTION:

The Hydrofracking Radon Portable Water Monitor System operates with a continuous water flow through the lower section of the sample head. Some of the suspended Radon gas escapes from the water due to its vapor pressure. If desired, the amount of, Radon escaping can be increased by heating, agitating, bubbling, etc. The resulting radon gas is detected by the alpha scintillation in the upper chamber. The count rate from the alpha scintillator detector is displayed on the alarming AC-DC Ratemeter. Alarm levels are user specified.

The Hydrofracking Radon Portable Water Monitor System includes:

- Sample Head, FLO-9
- Alpha Scintillator, PAS-8
- Alarming Ratemeter, LAM-10

Tier Selection

Final tier assignment is based on overall product score.

- Top Tier
- Second Tier
- Third Tier
- ◐ Fourth Tier
- Bottom Tier

RANKINGS

	Biological	Chemical	Radiological
FIELD USE System	N/A	N/A	
MOBILE Laboratory	N/A	N/A	
DIAGNOSTIC Laboratory	N/A	N/A	
ANALYTICAL Laboratory	N/A	N/A	

CONTACT INFORMATION

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COST

- \$9,636/system
- \$0/analysis

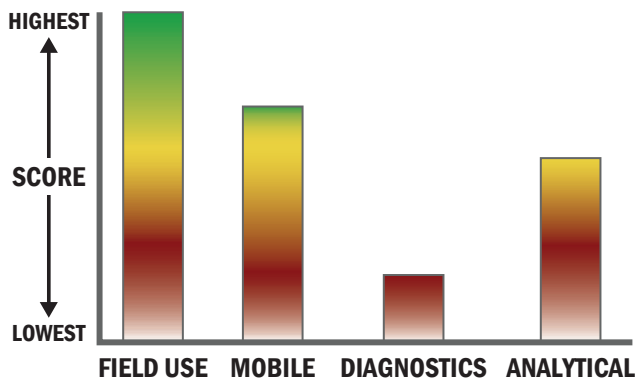
Survey Source

Vendor Supplied Information



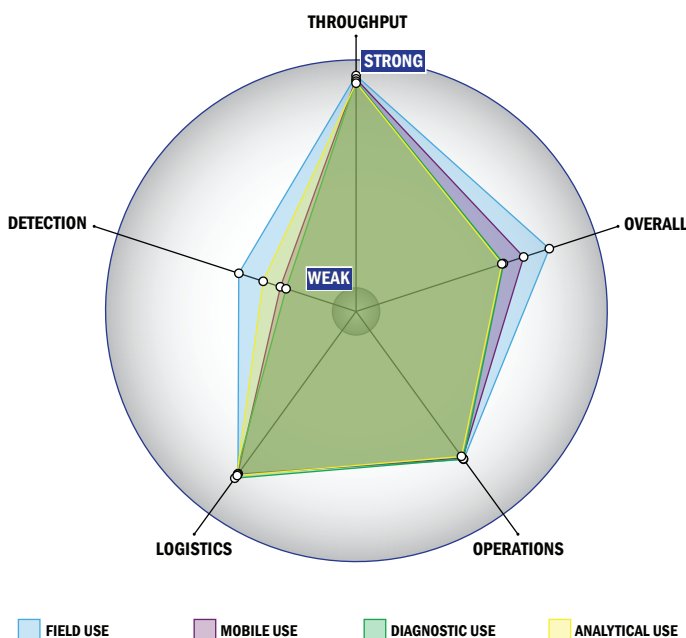
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



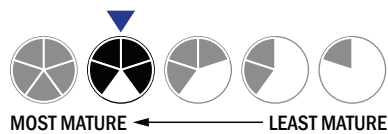
Evaluation Criteria

Throughput:

- Between 2 and 15 minutes for detection
- Continuous operation with no defined runs
- System is continuous and provides real time analysis with no defined tests/samples
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 0 components
- No set-up of the system is required for set-up
- Automatic detection

Logistics:

- An afternoon of training and some technical skills required
- Approximately the size of a toaster
- Between 1 and 5 kg
- This system is not capable of transmitting data
- System or device uses batteries
- 4-8 hours battery life



Operations:

- Can be used from 4 °C to 37 °C
- Performance is not influenced by relative humidity
- Greater than 10 years expected life
- Results can be viewed in real-time
- The system is not capable of autonomy
- The system does not employ any software
- The system hardware is open and available for modification

Detection:

- Greater than 250 µL
- Fair specificity. System has a consistent level of false alarms (5-10%)
- Only dose rate
- Down to background level radiation for dose rate
- System is used for surveying