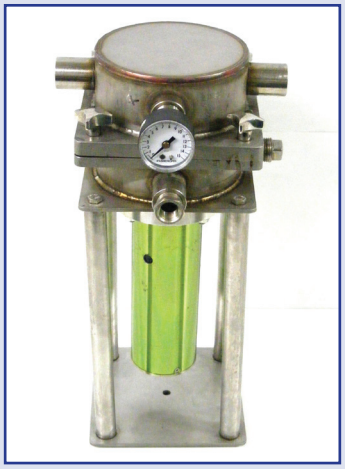
Technical Associates - Hydrofracking Radium Portable Water Monitor System

GENERAL DESCRIPTION:

Many communities already face high levels of Radium in their well water. Hydrofracking releases trapped radiation, including Radium, from underground formations into mobile water flow, including groundwater, or industry generated wastewater, sludge, or brine. With current trends for hydrofracking the urgency for testing Radium levels has increased.



The Hydrofracking Radium Portable Water Monitor System, Radium-TA, provides quick on-site detection of Radium generated by the hydrofracking process, in groundwater, well water and in hydrofracking wastewater, sludge and brine.

- Also detects Alpha emitters in water samples
- In situ testing prevents the expense and lag time of sending in samples for laboratory testing.
- 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 Radium Portable Water Monitor System includes multiple components: a pump with a radium collection cell, and a scintillation detector with a scaler. A two-step process is involved:

- Water is pulled through the collection cell for a standard period of time.
- The scintillator/scaler receives the sample and counts the activity.

Note: A longer pull time increases sensitivity and gives a sensitivity measurement down to 1 picoCi/liter.

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	Third Tier
MOBILE Laboratory	N/A	N/A	Bottom Tier
DIAGNOSTIC Laboratory	N/A	N/A	Bottom Tier
ANALYTICAL Laboratory	N/A	N/A	Bottom Tier

CONTACT INFORMATION

Technical Associates
7051 Eton Ave.
Canoga Park, CA 91303
POC: Robert Goldstein, President
818-883-7043
tagold@nwc.net
www.tech-associates.com

COST

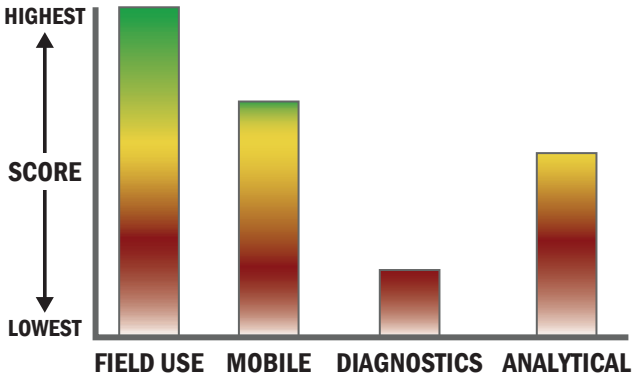
- $30,540/system
- $10/analysis

Survey Source

Vendor Supplied Information

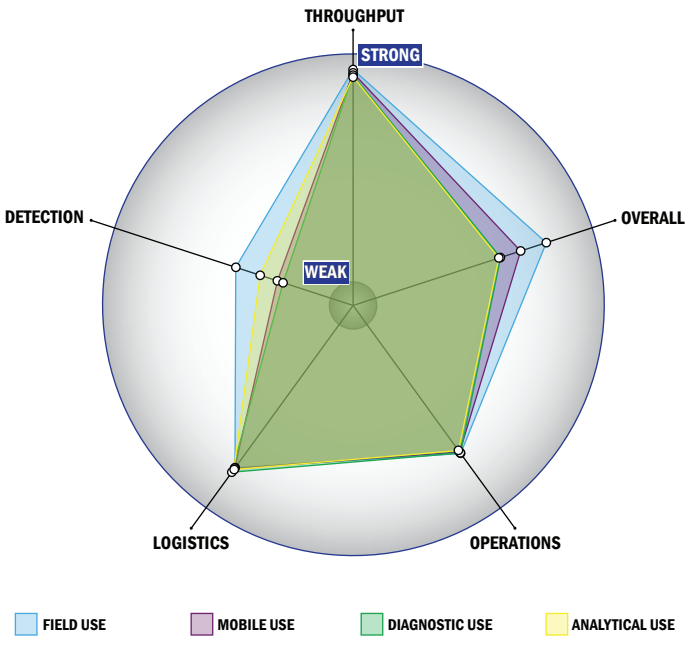
Scoring Analysis

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.



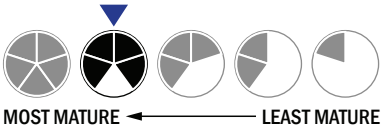
Evaluation Criteria

Throughput:

- Greater than 8 hours for detection
- 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
- Less than 5 minutes is required for set-up
- 1-2 steps are required for detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a carry-on luggage suitcase
- Between 5 and 25 kg
- Satellite and wired connections are available
- System or device has 110V electrical requirement
- 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 or device is currently fully autonomous
- The system does not employ any software
- The system hardware is open and available for modification

Detection:

- Greater than 250 µL
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- Only count rate
- Down to background level radiation for count rate
- System is used for surveying