

# **RMLD**<sup>TM</sup>

**Remote Methane Leak Detector**

## **Technology Overview**

**Milton W. Heath III**

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# Survey Challenges

- Hundreds or Thousands of Components
- High Elevations, Gates, Hard to Reach Areas
- Time, Productivity
- Personal Comfort, Speed, Ergonomics

**CAN'T GET TO THE LEAK!**

# Introducing



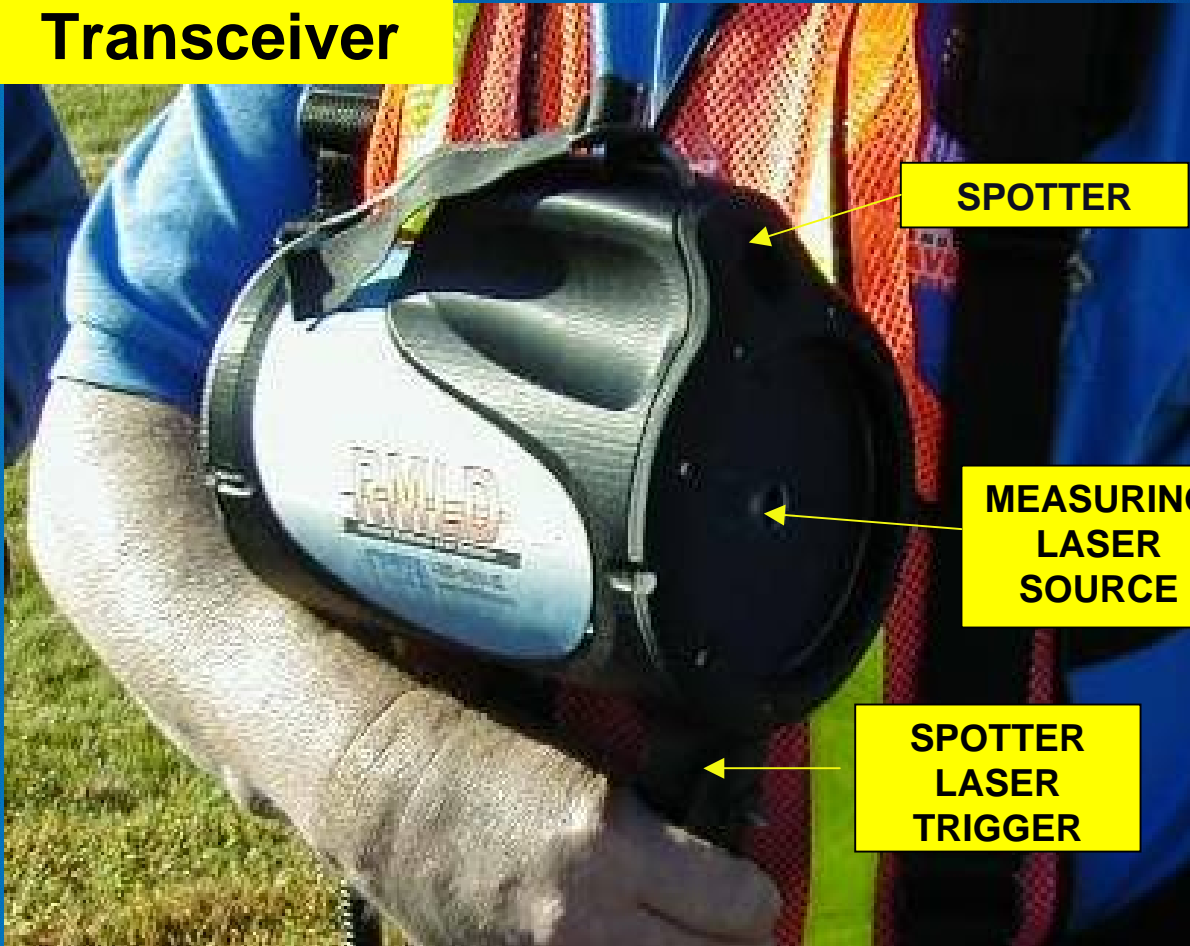
- Highly advanced technology.
- Capable of detecting leaks from a remote distance.
- Selective to methane.

# General Specifications

- Weight 9 lbs (Controller: 6 lbs and Transceiver: 3 lbs)
- Rugged, splash-proof and weather resistant
- Detection Range: 2 - 100 feet
- Modes of Operation: DMD and Pure Tone
- Sensitive to 5 ppm-m
- Built in self-test and calibration
- IR Laser: Class I
- Spotter Laser: Class IIIa
- Rechargeable battery lasting over 8 hours
- User-friendly interface with audible tones
- Operating temperature from 0°F to 120°F
- Ergonomic design with shoulder harness

# Two Main Components

## Transceiver



## Control Unit and Harness

# Transceiver

## Two Lasers

### 1. Infrared Laser

- Non-visible and continuously on when the unit is turned on.

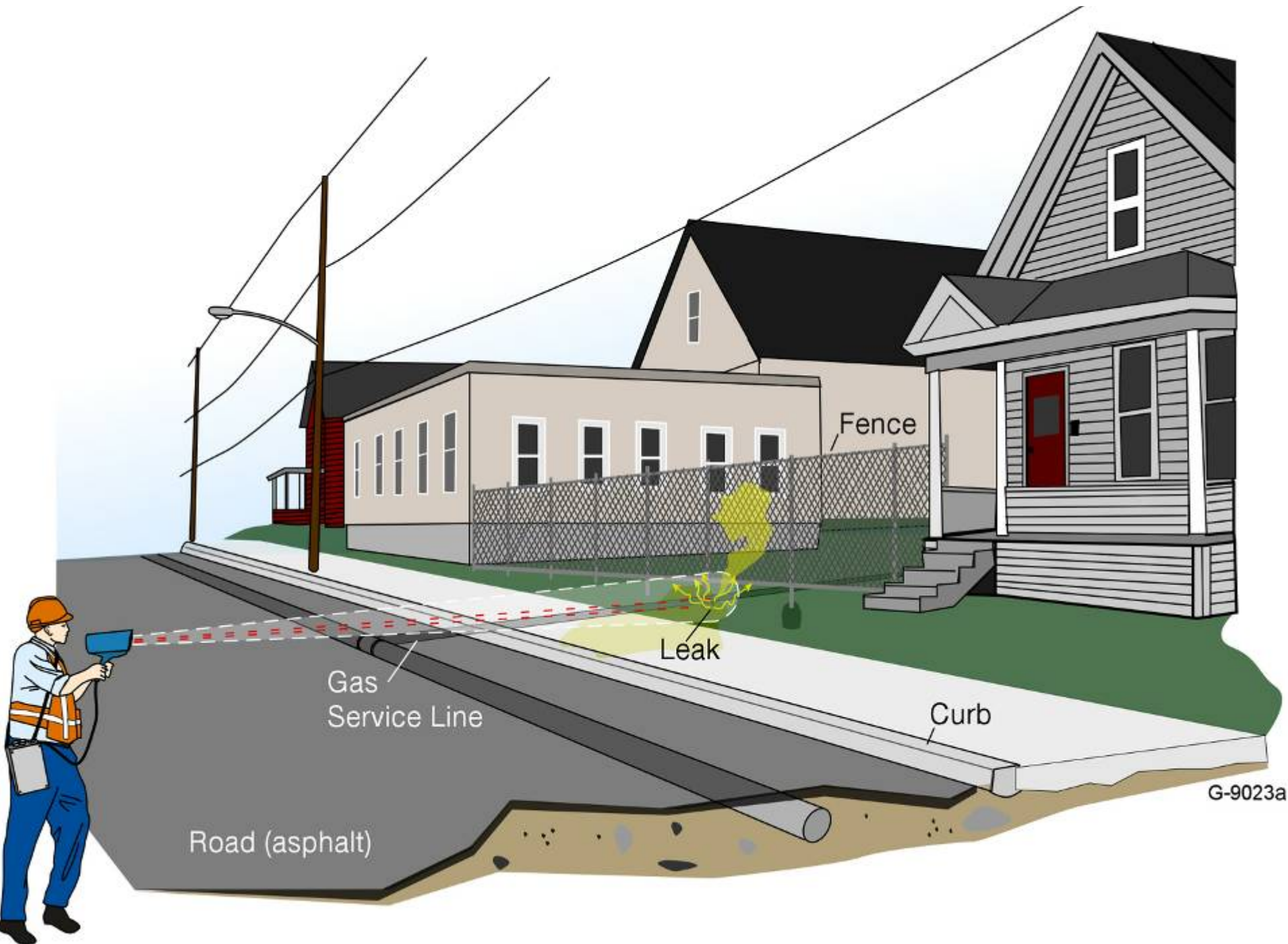
### 2. Spotter Laser

- Visible **green** spotter controlled by the operator.

# How Does it Work?

- The infrared laser passes through the gas plume.
- The laser light is reflected off of a background and returns to the transceiver.
- Methane absorbs a portion of this light which the RMLD then converts to PPM-M.

**This technology allows long-range and remote detection of methane making difficult surveys safer and easier.**



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# Conditions Necessary for Detection

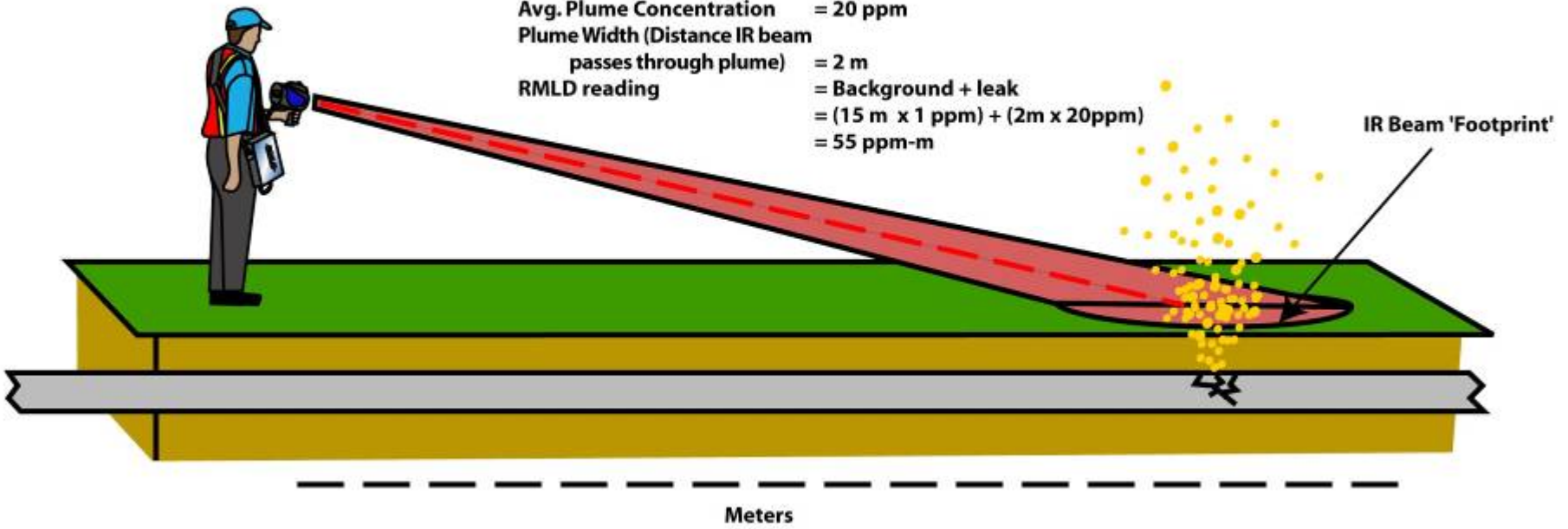
- Gas plume of sufficient size and concentration.
- Sufficient reflective background.
- Laser **MUST PASS** through the plume.

# RMLD Operates Differently Than FI

- Remotely detects gas everywhere within the laser path length.
- Measures ppm-m not ppm.
- The ppm-m reading is the product of concentration x plume width.
- Use of scanning techniques to detect and localize leaks.

**Example**

Scan Distance	= 15 m (50 ft)
IR Beam 'Footprint'	= 4.9 m (16 ft) x .3 m (11 inches) @ 15 m (50 ft)
Background Methane	= 1 ppm
Avg. Plume Concentration	= 20 ppm
Plume Width (Distance IR beam passes through plume)	= 2 m
RMLD reading	= Background + leak
	= (15 m x 1 ppm) + (2m x 20ppm)
	= 55 ppm-m



# **SURVEYING TIP**

**The most important aspect when surveying with the RMLD is proper control and aiming of the infrared beam.**

# Long Range Scanning

- The RMLD can detect leaks up to 100 feet away.
- The actual distance may vary due to:
  - Target surface.
  - Environmental conditions.

**Tip:** When surveying distances greater than 50', it is important to slow down the scanning rate and take care in aiming the laser.



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# Localizing the Leak

- Stand about 5-10' away from the meter.
- Use the pure tones to pick out the strongest return.
- Start aiming low, on the ground.
- Work the beam up and around the piping:
  - Note that the spotter laser is about 3" above the IR laser beam.

**As usual, when in doubt, soap the component to help pinpoint the leak.**



# Questions?

*Questions regarding this and other leak measurement technologies, please contact:*



**Milton W. Heath III**  
**9030 Monroe Road**  
**Houston, Texas 77061**  
**713-844-1304**

**[Milt.heath3@heathus.com](mailto:Milt.heath3@heathus.com)**

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