

RadonX™

Uranium Exploration Solution

RadonX™ is the new name in radon emanometry surveys and is proving to be a highly valuable tool in the discovery and delineation of buried uranium mineralisation.



What is RadonX™?

RadonX™ is an uranium exploration tool offered by Remote Exploration Services and is a refinement of the Radon-on Activated Charcoal (ROAC) technique developed by the South African Atomic Energy Corporation in the 1970's.

Due to the very limited penetration (~35cm) of gamma radiation used in conventional uranium exploration, radon emanometry is widely used to detect uranium mineralisation at depth. Radon (^{222}Rn), a gas released by naturally occurring uranium, is able to migrate through permeable cover sediments and is detectable at surface.

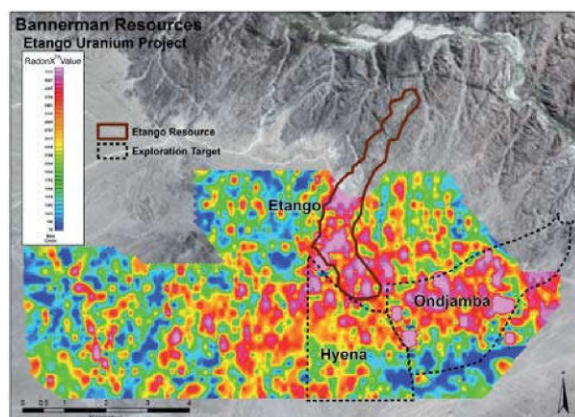
RadonX™ provides a highly effective means of detecting this radon release and has the ability to detect potential uranium resources at depth. RadonX™ differs from commonly-used alpha-sensitive radon detection techniques in that gamma radiation arising from the radon daughter products is measured.

How does RadonX™ work?

Radon, arising from uranium mineralisation, is absorbed onto activated charcoal contained within a cartridge, fitted into the base of an inverted cup and buried in the ground.

The radon, contained in ground air, is brought to the surface by the pumping action of daily air pressure variations. A cup burial period of a specific number of days is required to average out these variations and to increase the signal strength of the low levels of radon released at surface.

The gamma radiation arising from the daughter products of the adsorbed radon, namely ^{214}Bi and ^{214}Pb , is measured using a field scintillometer. Background effects are reduced and corrected for through the use of a lead castle.



Ore resource extent of the Etango Deposit (Namibia) overlaid onto a RadonX™ Survey image. The leucogranite-hosted deposit is buried beneath sand cover to the south and has no radiometric signature. (Courtesy: Bannerman Resources Ltd)

Why use RadonX™?

- Fast survey and results turnaround time (between 12 and 22 days depending on the size of grid) is achieved by efficient cup deployment and simultaneous cup collection and field measurement.
- Gamma counting statistics are improved by immediate field measurement.
- Highly cost effective in comparison to other radon emanometry and geochemical techniques.
- Does not measure thoron (^{220}Rn) arising from thorium that might be contained in the bedrock.
- Significantly improved sensitivity compared to alternative alphas detection surveys.
- Effective for regional surveys and detailed follow-up.
- Detailed grid surveys enable accurate mapping of uranium mineralisation and positioning of drill targets.
- Highly effective through both residual and transported surficial cover, given sufficient permeability.
- Excellent depth of penetration. Under favourable permeability conditions a depth of penetration of 80m or more can be achieved.
- Intensive RadonX™ orientation surveys and previous ROAC studies, over known mineralisation, have shown this technique to be a highly effective uranium exploration tool.

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