



Newsletter

It's Here!!

Special points of interest:

- The new AB6
- Meet the design team
- In the desert
- AB-5 still available

It's Here! Our new Pylon AB6!

I am very excited about our new "touch screen" Radon Monitor and the features it has to offer. You will find lots of great information about the Pylon AB6 in the following pages.

Don't hesitate to contact us with your questions. We look forward to helping you and learning more about your radiation measurement applications.

Best Regards

Jim Mullins



Introducing the new Pylon AB6

Inside this issue:

- AB6 pictures 2
- Meet the team 6
- AB-5 still available 6
- Did you Know? 6
- Where in the World 7



Full set of Detectors
and Sources available



Color touch
screen is easy to
use with a stylus
or finger
control



PMT can be exposed with power
on.....Cells can be exchanged
without turning the unit off

Same proven PMT
technology as in the AB-4
and the AB-5





Pump accessory can be User installed



USB connectivity



New adapter so you can use the AB-5 cells you have now

Cover is quickly and easily removed





*Auto Plateau feature
saves time and
improves performance*

*User can set
measurement
preferences and
password protect*



*USB Flash Memory for
easy file transfer*



*Closes down for easy
portability in a rugged metal
case*



Measurement setup
is fast and easy



Calibration data for
each detector can
be stored

For more information, visit <http://www.pylonelectronics.com/pylonmonitors.php>



Meet the AB6 Design Team

Pictured are the Core members of the AB6 Design Team. From Left to Right Front row:

Art Heatley, Lise Leveille, Jim Mullins.

Left to Right Back row:

Ian Main, Sharyn Fitzpatrick, Bob Taetz.

Special thanks also to Malcolm McDowell, for Software development.



The Team

AB-5 still available

We've brought all the best features of the AB-5 and the AB-4 into the AB6, which will replace the AB-5 and AB-4 soon.

The AB-5 and the AB-4 will still be available through December 2012.

Service and Calibration and repair will be available for the AB-5 and the AB-4 as long as we can support them.

For more information, visit <http://www.pylonelectronics.com/pylonmonitors.php>

Please feel free to forward this Newsletter to all your colleagues.

Did you know?

All the legacy software for the AB-5, the AB-4 and the WLx is available for download from the Pylon website. Actually, any old serial text editor may be used. Serial COMM Settings are 9600 8N1.

Also available free of charge is the DTU software. This more modern PC software provides much of the functionality that the old PC programs did, but runs in a Microsoft Windows XP environment. Works with the AB-5, AB-4 and WLx. Enables you to connect the monitor to a PC for file transfers.

Of course, the new AB6 comes with a colour touch screen, mak-

ing it easy to operate. PC software is also included for easy file manipulation, pre-formatted reports, printing and you can operate the AB6 from a PC, or laptop. Connection is USB.

For more information, visit

<http://www.pylonelectronics.com/pylonproductsdownloads.php>





Where in the World...Mauritania



Forte Energy (Perth) is exploring for uranium in the Sahara desert of Mauritania. It takes two days of travelling to get to the project area.

The principal techniques are airborne and ground gamma radiometric surveys, with trenching and drilling of suitable anomalies. In some places a thin sand cover is present along the trend of a mineralised zone and as it only takes about 50-70 cm of sand to com-

pletely block gamma radiation, we are using radon gas to locate mineralisation below the sand. There are plastic film techniques to detect radon but these require a detector to be left buried in the ground for a month and then sent to a laboratory for processing. This requires two visits to the site and a wait until the films are processed, and this is not cost-effective.



AB-5R and the steel sampling tube



Instead, Forte Energy is using a Pylon Electronics AB-5R radiation counter with alpha-particle scintillation detectors (Lucas cells) to detect the radon gas. We drill a 50 cm hole into the coarse granular soil using a portable gasoline-engined drill and then insert a steel probe with a coupling for the plastic tubes leading to the AB-5R. We measure the cell background for one minute, then use the internal pump to draw up a sample of soil air into the cell where three one-minute counts are then made. Then the cell is flushed with air and the instrument is moved to the next sampling point, usually 10 to 50 metres apart on a grid. Fairly repeatable results can be obtained, the main problem being the "fit" of the steel probe in the hole. It is usually necessary to hammer it down as the hole tends to fill in with fine sand and this makes an almost ideal gas-tight seal around the sampling tube.

The three counts allow us to distinguish the counts due to Radon-222 (a daughter of Uranium) and from Radon-220, also known as "Thoron" (a daughter of Thorium) as Thoron has a

George Reynolds with the AB-5R short half-life of 55 seconds while Radon (Rn-222) has a half-life of 3.8 days.

Moreover, the counts due to Rn-222 actually increase by a factor of x3 during the three hours after sampling and this can be discerned in the three minutes after sampling as a slight increase. This is due to the additional alpha-particle emissions from the short-lived daughter products of Rn-222 (Po-218 and Pb-214) which build up rapidly at first and then more slowly until the maximum is reached after about three hours. The Rn-222 parent then decays according to the 3.8 day half-life. This can be demonstrated by repeatedly measuring the activity from a cell during the hours and days following sampling.



However, this tends to leave the solid alpha-emitting daughters in the cell and gradually raises its background count, which is why we flush the cells immediately after the three counts have been completed.

For operator training, we take a sample from a plastic bottle known as a "thoron cow" (as it is milked for thoron regularly!) containing a few thoriated gas mantles (note: most of those sold today do not contain thorium!) and within 10 seconds of pumping a rapid rise in the count is observed as the thoron reaches the cell. The three subsequent counts show an approximate 50% decrease which corresponds nicely to the 55 second half-life of thoron.

The AB-5R ("R" stands for "ruggedised") has a hard life in the desert with temperatures of 40 degrees C and above during the day, as well as blowing sand which tends to get in everywhere. We use a paper filter on the airline to the cell to keep out the dust. Changing Lucas cells is done inside a vehicle and under one of the black turbans worn by the locals to avoid the harsh sunlight from temporarily "blinding" the cell or damaging the photomultiplier tube. These black turbans known as "howlis" are very useful for all kinds of things like wiping dust from the display, keeping sand out of one's eyes and nose and even doubling up as a pillow in the camp at night!.

Thanks to George Reynolds of Metrics Consulting (Ireland) for this insight into how the AB-5R is being used for uranium exploration in the Sahara and thanks also to Forte Energy for permission to publish this article.



Pylon Electronics Inc.
147 Colonnade Road
Ottawa, ON
K2E 7L9
Canada

Phone Toll Free
(North America only)

1-800-896-4439

Or call

1-613-226-7920

Email to

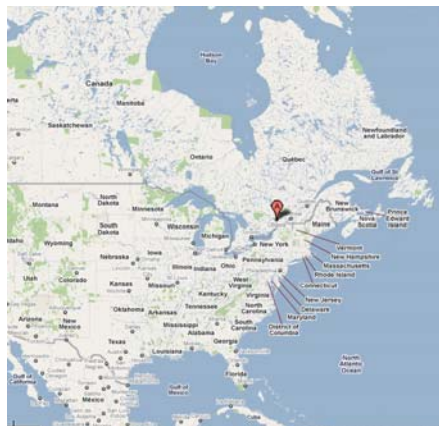
instrument@pylonelectronics.com

Pylon Electronics Inc., a Canadian company, was incorporated in 1955. Our policy of significant investment in people and products ensures a distinguished reputation for quality in the products and services that we market.

Established in 1977, Pylon's Instrument Manufacturing Division is recognized as an international leader in the design and manufacturer of state-of-the-art instruments for the detection and measurement of radon, thoron, and their progeny.

Through a network of authorized distributors in over 43 countries, Pylon's Instrument Manufacturing Division continues to maintain a leadership role as a provider of innovative, high quality, accurate radon and thoron measurement solutions throughout the world.

In addition to manufacturing an extensive line of equipment for the measurement and detection of radon, thoron, and their progeny, Pylon maintains and operates two well equipped radon and thoron chambers for the performance of exposures and equipment calibrations that are traceable to NIST (National Institute of Standards and Technology) and/or NRC (National Research Council of Canada) standards.



<http://maps.google.ca/maps?q=45.343534,-75.704105&num=1&ll=45.344077,-75.703118&spn=0.011643,0.020707&ie=UTF8&ll=45.344077,-75.703118&spn=0.011643,0.020707&z=16>

Google Maps link

Visit us at

www.pylonelectronics.com