

## *IPI's Second Generation Hydraulic Packer System Gets The Thumbs Up*

Perth based Inflatable Packers International (IPI) reports that they are now selling more of their STX-60, second generation hydraulic wireline packer testing system that the previous market leading SWiPS (Standard Wireline Packer System). MD and original designer Clem Rowe comments:

“The STX-60 is a bit more expensive than the SWiPS system and is not capable of NQ wireline deployment, but clients are now opting for the STX-60 in preference to its well proven predecessor for HQ and PQ work, and even going for NQ operations by running in open hole on rods, not through the bit, where feasible. The STX-60 is based on a different type of well testing tool originally developed for the more demanding CBM (CSG) market and clients are opting for a more capable and versatile tool, that has proven to be easier to use. SWiPS significantly pushes the potential for permeability testing and is still excellent, but we expect STX will do yet more for resources exploration and other geotechnical applications.”

Mining and CBM (CSG) industries undertake permeability testing for critical resource exploration processes associated with mine planning, dewatering, slope stability and coal permeability. Most commonly undertaken as part of coring, the tools usually work in place of the inner core barrel and are run in and out with the same wireline equipment. Historically “packer testing” used in these applications employed pneumatic (typically nitrogen) inflated packers to isolate the zone being tested, but these systems have serious limitations for especially deeper, more remote location and more sophisticated testing. Since first used on projects in New Zealand and Mongolia in 2001 IPI's hydraulic SWiPS has become the standard system for the world's major mining projects, although pneumatic systems do get used for less demanding, less critical, shallower testing.

During recent field support with Wafi Golpu, a Newcrest joint venture in PNG, IPI R&D Manager Francis Ford, was impressed with trainee's reactions on SWiPS and STX-60:

“They unanimously preferred STX!.....A lot of it is familiarity and therefore confidence but there is clearly less potential challenge with core barrel fit and many more realisations of 'can't do this with a gas packer'.”

Cletus Karaut (Senior Geotechnical Engineer - Wafi) goes into more detail (thanks Cletus):

### STX

- User friendly and I feel relaxed using it.
- Can be used on your way out of the hole when you miss important structures without delays and excessive standby time .
- Can easily be dismantled into small parts that can be easily handled and transported to and from site, thus making logistics much easier even in remote areas.
- Has the capability to do tests in deep holes without any problems.
- Quality of data is awesome as we experience minimum pressure spikes in the data.
- The tool is so dynamic and very reliable when you stroke between the four different stages of operations, ie, inflation/deflation, circulation, shut in and injection/inflow tests. It won't fail you unless you sit the element in bad ground.
- To date, all the test that we did using STX have been successful! Thanks to IPI.
- Takes a bit more time to service as it has more parts than the SWiPS.

### SWiPS

- Easy to use and can be understood very easily.
- Can easily be dismantled into small parts that can be easily handled and transported to and from site, thus making logistics much easier, even in remote areas.
- The shear pin shears easily in deep holes so extra care should be taken when applying pressures to the element.

- The quality of data is also good. This depends on how you handle the tool on the surface which directly influence the data collected on the surface using the flow meter and the transducer down hole.
- Takes less time to service as it has less parts than the STX.

Frankly speaking, I am comfortable using both tools!"

**SWiPS and STX-60 training at the Morobe JV Mine in PNG**



Meanwhile over in New South Wales a very experienced SWiPS operator, Jesse Puller, has his own summary:

"we have been using the SWiPS for several years on coal seams, and continue to use the SWiPS hydraulic packer system manufactured by IPI, but have recently taken delivery of the STX60 tool.

The primary motivation behind SCT's decision to acquire the STX60 tool this year was to enable effective down hole shut-in capability and rapid deployment between test horizons in the same well, a feature that was not available with the older SWiPS system we were using.

After a month long rigorous well testing campaign in Qld's Bowen Basin, the STX60 has proven its worth and provided the additional benefits of rapid deployment, ability to circulate fluids in troublesome wells during shut-in periods and easy and reliable packer inflation. The inflation and down hole activation system is superior in terms of efficiency and reliability and requires less maintenance when compared to the SWiPS tool.

The time savings delivered through using the STX60 packer system when undertaking multiple short duration well tests in the same borehole was considerable for us and reduced drill rig utilisation time significantly. Significant safety improvements have been made as a result of not

having to remove the tool from the well for each new test interval that is required, dramatically reducing manual handling time.

The tool worked really well”

**STX-60 on site, Bowen Basin, Queensland. Wireline latch clearly visible.**



IPI’s Commercial Director, Howard Kenworthy, adds:

“More project managers now realise that for what is minimal extra equipment expense in terms of the exploration drilling program, there is now a quality, proven system that enables and assures yet more accurate testing and it is easier to use, which is good news for novice operators. In fact the new tool can often reduce total program costs. We have no doubt that STX will be as popular as SWiPS.”