Specialists in Centre Pivots & Lateral Move Irrigation
www.pivotirrigation.com.au
Pivot Irrigation and Pumping Update
May 2014
Goondiwindi
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Gunnedah
02 6742 6501
Toowoomba
07 4634 7667
Two Pivot Irrigation and Pumping lateral users have received awards from the Upper Namoi Cotton Growers.

The 2013/14 Irrigated Grower award went to Mark and Glenys Hamblin of Hamcot Pty Ltd, “The Willows”, after displaying excellence in their use of technology.

The Hamblins were one of the first irrigators in Australia to install a Valley Rainger Swing Around Lateral when they were released back in November 2008. This is the 3rd season in a row that the Irrigated Grower award has been awarded to a grower using equipment supplied by Pivot Irrigation and Pumping.

The Innovation award went to Scott Morgan of Tagmor Ag.

Due to groundwater allocation cutbacks, Mr Morgan made a number of innovative approaches to his farming to ensure he held sufficient water to finish his crop, including the installation of a lateral move irrigator from Pivot Irrigation and Pumping.

Benchmarking Irrigation Energy Use

As energy costs continually increase, it is interesting to compare irrigation pumping costs and efficiency. A number that comes up regularly in the industry is 5 Kwhr/Megalitre/per meter of pump duty required.

Pivot Irrigation have completed a number of projects over that last 12 months where energy has been an increasingly high factor in design of the overall system. Following is a table of some of the projects completed and particular energy consumption rates in a Kwhr/MI/m format.

<table>
<thead>
<tr>
<th>Project</th>
<th>System Type</th>
<th>Irrigated Area</th>
<th>Machine Length</th>
<th>Daily Application Rate</th>
<th>Flow Rate</th>
<th>Pump Duty (m)</th>
<th>Pump Efficiency</th>
<th>Pump Power</th>
<th>KWhr/Ml/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whisper Wood</td>
<td>Channel Feed Centerfeed Lateral</td>
<td>203Ha</td>
<td>1070m</td>
<td>11.9mm</td>
<td>24Ml/Day 280l/s</td>
<td>43m</td>
<td>86%</td>
<td>147Kw</td>
<td>3.42</td>
</tr>
<tr>
<td>Wantanta</td>
<td>Channel Feed Swing Around Lateral</td>
<td>96Ha</td>
<td>515m</td>
<td>12.6mm</td>
<td>12Ml/Day 140l/s</td>
<td>39m</td>
<td>88%</td>
<td>64Kw</td>
<td>3.25</td>
</tr>
<tr>
<td>Gunbower</td>
<td>EndFeed Swing Around Hose Drag Lateral</td>
<td>50Ha</td>
<td>402m</td>
<td>12mm</td>
<td>6Ml/Day 70l/s</td>
<td>58m</td>
<td>85%</td>
<td>47Kw</td>
<td>3.21</td>
</tr>
<tr>
<td>Wainui</td>
<td>Fixed Center Pivot</td>
<td>92Ha</td>
<td>542m</td>
<td>12.2mm</td>
<td>11Ml/Day 130l/s</td>
<td>50m</td>
<td>72%</td>
<td>90Kw</td>
<td>3.85</td>
</tr>
<tr>
<td>Amalu</td>
<td>Fixed Center Pivot</td>
<td>20Ha</td>
<td>266m</td>
<td>10mm</td>
<td>2.1Ml/Day 24l/s</td>
<td>60m</td>
<td>62%</td>
<td>42Kw</td>
<td>7.74</td>
</tr>
</tbody>
</table>

The above table demonstrates that overhead pressurised irrigation systems (when designed as full turn key projects) will outperform the benchmark in terms of energy use. As more focus is paid to energy use; is it time for you to assess your irrigation and look for energy saving improvements.
Cleaning sprinkler nozzles and changing system flowrates / application intensity became a lot simpler and quicker with the release of the Senninger UP3 nozzle platform. A simple clip in style nozzle has replaced the traditional screw in style nozzle; this allows for the nozzle to be quickly removed, cleaned and swapped as the need arises.

Mark Schmitt (Sales Manager Gunnedah) receives the award for Pivot Irrigation and Pumping from Valley Irrigations Territory Manager Martin Porter.

The business has gone from strength to strength since originally opening in Gunnedah in 2007, opening a branch in Goondiwindi the following year. And a further branch in Toowoomba has now been in operation for over a year.
Pivot Irrigation and Pumping Employee Profile

Name: Danny Kemp
Position: Electrician / Service Technician
Branch: Gunnedah

Experience: Danny has been working on Valley Center Pivots / Lateral Moves and Precision Corner Arms for the last 8 years. Originally from New Zealand – Danny gained his experience in the intense irrigation districts on the Canterbury Plains before relocating to Gunnedah in 2013.

Responsibilities:
Danny is our primary field service electrician. He is responsible for field wiring and commissioning new irrigation machinery. Danny is also part of our breakdown repair and fault finding team.

Qualifications:
Danny is a licensed electrician in both NSW and QLD. He has also attended a number of Valley Technical Training Seminars and received his certification and a factory trained Valley Technician.

Hobbies / Interests and Quirks: Danny has keen interest in competitive archery; he has been known to have the occasional incident in work vehicles including bogging his 4WD in a recently refilled pipeline. Somehow during getting bogged Danny has punctured both of his front tyres – so he has been left in the pouring rain, bogged to the chassis; two flat tyres and only a single spare.

Danny has also been known to get out his gas torch when dealing with some of the spiders found here in pivot control panels (a problem he would not have encountered when working in NZ).
New Finance Offer

Valley Irrigation Australia and De Landen Pty Limited are working together to provide attractive rates terms and conditions for the finance of your new, water conserving, Valley machine!

36 Month

4.99%*

Simple one page finance application and fast approval rates for equipment financing.

Other terms and finance styles available depending on the individual situation.

*All quotations, offers and notifications in relation to financing arrangements are subject to credit approval and qualification. Applies to on-farm equipment to approved business customers only. All offers and products are provided by De Lage Landon Pty Limited.

Spare Parts and Off Season Maintenance

You may be currently picking or harvesting, but it won’t be long until it is time to do that machine maintenance that you have been planning.

Whether you do this yourself or have us do complete servicing for you – it is time to start thinking about what you need.

It may be a motor making a bit more noise than usual or a gearbox with an odd growl – time to act with genuine Valley spare parts ex stock from one of our Branches.
GPS Lateral Guidance Performance Review

Two projects for the 2013/14 Summer Irrigation season were completed using the recently released RTK GPS guidance for Swing Around Laterals.

Both laterals used John Deere Starfire SF3000 receivers, receiving correction signals from the Vanderfield supplied base station at Brookstead.

Although a relatively new product from Valley, the installs and performance have been trouble free. One of the laterals irrigating a cotton/corn planting has completed over 1400hrs of irrigation — with one shutdown event due to the GPS guidance (and this was actually troubleshooted back to the grower running the machine outside of its operational zone).

Wheel tracking / repeatability and irrigation uniformity results have been excellent when comparing GPS to above ground wire guidance or furrow guidance. Also ease of adjusting the lateral path was unsurpassed by any other form of guidance. One lateral required shifting from one side of the hydrant line to the other — this was achieved by programming a new AB line and the machine automatically moved over to the new path (14m offset) without oversteering in less than 30 minutes.

At this point we cannot fault the performance of the GPS Guidance and can see a definite place for its use in installations where below ground guidance installs may be difficult or on sites where more than one path/block/direction may be required.

Is your water corrosive? High in carbonates and sulphates? — if it is than you should consider adding Valley Electric Motor Covers to your machine.

These low cost covers give additional protection to your drive motors; extending their operational life.

$33 per Drive Unit (inc GST)
Upper Namoi Grower takes advantage of Water Use Efficiency Funding

Peter Maxwell at “Top River” on the Breeza Plains at Gunnedah undertook water efficiency upgrades under the NSW Sustaining the Basin program in late 2013.

In order to improve his overall farm water efficiency he installed an additional 1300 megalitre storage cell and added a new pump station to supply water to the new storage from the Mooki River.

Pivot Irrigation was engaged to design, supply and install the pump station which consists of two 26” Batescrew Axial Flow pumps powered by two 13.5 litre John Deere engines. All field installation work was completed by January 2014.

Pumping capacity is 260 ML/Day. The pumps are required to lift a total of 13.8m with a pump efficiency of 79%. Total pump power required is 547KW.

In addition Pivot Irrigation supplied a 600m Valley Swing Around Lateral Move which was installed to further improve efficiency on country that was difficult to flood irrigate. The Lateral Move will irrigate two 72Ha fields and be able to apply 14mm/day to 72Ha. The ability of the Swing Around machine to operate on two fields, with one machine, with high water use efficiency is a real bonus. Typical water savings under these machines when compared to flood irrigation have been in the range of 20 – 40%.

The large capital investment in irrigation efficiency is something that Peter believes will be returned in higher production per megalitre and better water security.

Maxwell Project at a Glance

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>2 x Batescrew Axial Flow Pumps with 13.5L John Deere Engines</td>
<td></td>
</tr>
<tr>
<td>1 x 2.8m Diameter x 11.35m Distribution Tank</td>
<td></td>
</tr>
<tr>
<td>2 x 2.8m Diameter x 11.1m Pump Tanks</td>
<td></td>
</tr>
<tr>
<td>15 x Channel Gates (Various Sizes)</td>
<td></td>
</tr>
<tr>
<td>7 x Concrete Drop Boxes (Various Sizes)</td>
<td></td>
</tr>
<tr>
<td>255m x 1200mm Diameter Steel Pipe</td>
<td></td>
</tr>
<tr>
<td>80m x 900mm Diameter Steel Pipe</td>
<td></td>
</tr>
<tr>
<td>18m x 750mm Diameter Steel Pipe</td>
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</tbody>
</table>
Lifting in one of the new Batescrew Pumps

3D Model of Pump Station and Pipe Network

Twin 1200mm Suction lines to Individual Pump Tanks
2014 Preventative Maintenance Program

Preventative maintenance of your Centre Pivot or Lateral Move equipment is of vital importance to your irrigation program. Breakdowns cost money during the irrigation season.

Pivot Irrigation and Pumping can offer our fully trained Valley service technicians to carry out a machine service for you.

Regardless of machine type or brand, electric or hydraulic we have many years of experience with all machine types. Now is the time to carry out a little bit of regular maintenance to ensure you receive the best performance from your investment in the long term and minimise your costs.

Factory-trained, Valley® Service Personnel conduct Valley Certified Inspections.

$99 per Drive Unit ex GST

Inspection highlights:
- Draining irrigator
- Grease pivot point/lateral cart
- Drain water in gearboxes
- Check oil and fill
- Electrical components and connections
- Proper grounding


A standard machine Certified Service includes the following:
- Grease pivot point
- Check Grounding
- Check centre point electrical components and connections
- Drain Gearbox and Centre Drive oil
- Replace with approved gear oil
- Check gearbox wear
- Check drive train wear
- Check tire pressures
- Grease Towable Hubs (Towable)
- Visually check spans
- Check tower boxes and alignment controls
- Check End Gun and Booster Pump (if applicable)

$210 per Drive Unit ex GST

An 8Year / 8,000Hr Certified Machine Overhaul includes the following:
- Includes Certified Service
- Replace all Tower Motor Contactors
- Replace Main Forward/Reverse Panel Contactors
- Full Machine Alignment
- Replace all Fuses
- Replace all Drain Seals
- Sprinkler Package Inspection and Assessment

$405 per Drive Unit ex GST

A 15Year / 15,000Hr Certified Machine Update includes the following:
- Includes Certified Machine Overhaul
- Replace all Drive Unit U-Joints
- Replace all Drive Shaft Shields
- Replace All Tower Boxes
- Replace all Fuses
- Replace all Drain Seals
- Sprinkler Package Inspection and Assessment

$1335 per Drive Unit ex GST
Pivot Irrigation and Pumping are proudly supporting a team entered in the Gibb Challenge.

The Gibb Challenge is a socially competitive 700 kilometre team relay mountain bike event raising community awareness and money for charity. The bike ride is from Derby W.A. to El Questro Wilderness Park, along the iconic Gibb River Road. There will be some 80 teams participating in The Gibb Challenge from May 18th to 23rd, 2014.

In 2014 the Principal Beneficiary is Royal Flying Doctor Service (RFDS). Everyone who lives or works or travels in remote Australia understands the enormous value of the RFDS.

Our secondary fundraising will be directed towards Motor Neurone Disease Research in Australia.

If you wish to add support you may make your donation to Royal Flying Doctor Service by following this link:


By combining state of the art agricultural technology with old fashioned service Pivot Irrigation and Pumping can provide you with a tailored irrigation solution. With offices in Toowoomba, Goondiwindi and Gunnedah we are conveniently located to service farmers in Australia’s prime agricultural areas.

- All levels of large scale irrigation - mechanised and furrow
- GPS Mapping and CAD Design
- Turn Key Irrigation Systems
- Pump stations and pipelines
- Access to world class products

Call us to find out how Pivot Irrigation and Pumping can help improve your on farm power and water efficiency.

Follow us on Twitter @PivotIrrAus