

Trunkline

The magazine for Woodside people | Q3 2019



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On the cover

Ripper Nippers: Young members of the Port Walcott Surf Life Saving Club sport their new uniforms which mark our extended involvement with Surf Life Saving Western Australia over the next five years through the Woodside Nippers Program.

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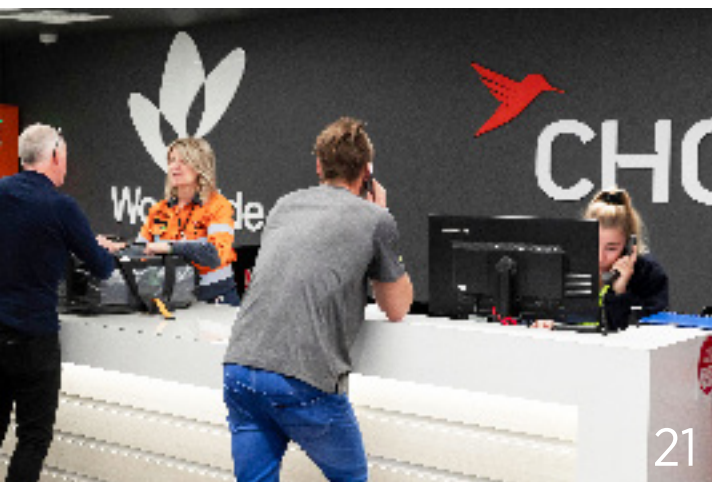
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Working sustainably is a core value at Woodside.

As our Compass states, we are here for the long term, taking care to look after each other, our communities and the environment.

You will find numerous examples of this in the following pages... from the cover featuring Woodside Nippers in the Pilbara through to efforts to enhance the efficiency of plant operations.

Consider too the green corridor initiative, in which we are looking to replace heavy fuel oils with LNG on vessels using the world's busiest bulk commodity shipping corridor.

Even the packaging for posted copies of this magazine has been upgraded (you may have noticed we are now using a biodegradable film).

Woodside is a bustling place.

In the past quarter, we achieved first oil on time, budget and schedule for our Greater Enfield Project, made steady progress on the Burrup Hub vision and commenced a seismic survey in Senegal... among many other things.

Read on to find out more.

Notes on Petroleum Resource Estimates: All petroleum resource estimates in this publication are to be read in conjunction with the Reserves Statement in Woodside's most recent annual report, as updated by subsequent ASX announcements available at <http://www.woodside.com.au/Investors-Media/Announcements>. This publication may contain forward-looking statements that are subject to risk factors associated with oil and gas businesses.

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Making powerful moves

Improved energy efficiency and greater reliability – that’s the result of more than 18 months of review, research and teamwork at Karratha Gas Plant (KGP).

“Our power generation reliability performance is our best ever at almost 99%,” says maintenance engineering team lead Pete Moar.

More than 220MW of electrical power (enough to power 315,000 average homes) can be generated by KGP’s 10 gas turbines, six of which are older heavy-duty industrial turbines, four newer aero-derivative turbines.

The latter boast key advantages over the former, including higher efficiency and lower rates of emission (including oxides of nitrogen or NOx), and the key to lower emissions is premixed fuel delivery technology.

Emissions are closely related to flame temperatures; the higher the flame temperature the greater the level of NOx emissions. But higher flame temperatures are desirable because they produce greater power.

“Achieving this balance requires careful control of the fuel-to-air ratio, and highly accurate and complex instruments and control systems,” explains system engineer Alec Norman.

“Too much fuel can lead to higher combustion temperatures and thus increased NOx; not enough fuel and you risk flame blow-out and machine shutdown.”

Problems with these complex combustion control systems can result in the turbines “staging-down” to operate at a lower power rating (capacity).

This means additional turbines are needed or there’s an increased risk of production loss – a less efficient operation and higher emissions.

In 2017, an in-depth review was conducted which found several issues were impacting power generation reliability and efficiency, including

- Critical instruments needed more frequent calibration
- Complex control systems needed updating

- Fuel nozzle performance was contributing to combustion instability.

It also determined improvements were needed within the broader organisation.

“Basically, we needed to raise the profile of power generation within the business and build shared goals with Engineering, Operations and Maintenance,” says asset manager Breyden Lonnie.

“For example, completing the right maintenance was fundamental to improving power generation reliability and this required more than just setting up maintenance plans: it needed the backlog of priority work cleared and Engineering support to Maintenance to ensure the correct scopes were prioritised.”

Pete notes that when all teams drive reliability improvement, awesome outcomes are achieved.

“When you have your power generation system operating at high reliability, you gain the confidence to take a proactive position to shut units down to leverage fuel efficiency and emissions savings,” he explains.

“The fewer machines you have running

to provide the necessary power, the more energy efficient and less emissions intensive you become; that’s how reliability can support emissions reduction.”

Alec says this was only possible because of a cultural change.

“Improved relationships and working arrangements between Operations, Maintenance and Engineering has created greater levels of understanding of the divisions’ different needs, leading to enhanced trust,” he says.

“This was critical to this improved power performance.”

Implementation of improvements began in earnest from mid-2017.

Since then, reliability of the aero-derivative turbines has increased by more than 10% and production deferment reduced by more than 90%.

Final word to a satisfied asset manager.

“This was true collaboration – not only between Engineering teams but also with Maintenance, Operations and key vendors,” says Breyden.



Power people: Alec Norman, Brendan Evans, Darae Emily Jensen and Derek Wingeatt helped implement recommendations to improve the reliability and efficiency of Karratha Gas Plant’s gas turbines.



Planned approach: Pippa Edwards, Tariq Ghorri and Craig Travers discuss the successful trial at Karratha Gas Plant to cut fugitive methane emissions.

Easing pressure

Reducing our emissions helps the environment and reduces hydrocarbon wastage.

So the LNG surveillance team has been examining how to reduce so-called “fugitive” methane emissions from LNG trains.

Fugitive emissions are hydrocarbons that leak or are vented during processing.

In May 2019, the LNG surveillance started a trial to attempt to cut the fugitive methane emissions from the acid gas removal units (AGRU) on LNG Trains 4 and 5 at Karratha Gas Plant.

Graduate process engineer Pippa Edwards explains that during the acid gas removal process, some hydrocarbon molecules from the feed gas are co-absorbed into the amine solvent.

“The AGRU are designed to recover these hydrocarbons into our fuel gas system with the assistance of an amine flash tank,” she explains.

“Unrecovered molecules remain in the amine solution until they are boiled out and vented to atmosphere with the acid gases.”

The AGRU system on LNG5, however, is designed differently to the other four

LNG trains at KGP and has historically performed with significantly higher fugitive emissions.

The trial centred on reducing the operating pressure of the amine flash tank on each train from 650kPa to 500kPa.

Reducing the operating pressure increases the separation efficiency between methane and amine. This minimises the volume of methane in the stack downstream and venting to atmosphere.

“Some of these operating conditions had not been operated at before, requiring a planned and systematic approach to ensure operating conditions were safe, sustainable with minimal trip risk,” Pippa says.

The trial ran over several weeks and was monitored closely by panel operators to ensure system stability throughout. All data was collected daily in manual samples by the Karratha Laboratory, once process conditions were steady.

Pippa, who ran the trial, says the results were better than expected.

“We found a measurable reduction in fugitive methane emission of 25% for LNG Train 4 and 19% for LNG Train 5,” she reports.

“This equates to an annual aggregate saving of up to 490 tonnes of methane from the two trains – equivalent to 12,000 tonnes of CO₂.”

That’s the same as taking 2600 cars off the road every year.

Reducing methane emissions also increases the gas available for sale.

Pippa says the Karratha Laboratory and Operations are to be congratulated for their collaboration and support.

Following the success with Trains 4 and 5, similar trials are now underway at Trains 1, 2 and 3.

“We’re hoping for similar, if not greater, success,” she says.

Lead surveillance engineer Ryan Taylor is pleased with the results.

“Pippa has shown that innovative thinking and a focus on reducing methane emissions at our operating asset can make a real difference to our environmental footprint,” Ryan points out.

“She has combined with Operations to safely test a new operating point and help embed a carbon emissions reduction mindset at KGP.”



Corridor of power: Chief operating officer Meg O'Neill explains to an AmCham meeting in Perth how the Green Corridor Initiative would reduce greenhouse gas emissions.

Sea **change** looms

Imagine an energy solution that could take the equivalent of 1.8 million cars in Australia off the road.

Woodside's involvement in the Green Corridor Initiative could see that become a reality, with the use of LNG as a marine fuel in the world's busiest bulk commodity shipping corridor.

A study by independent energy and carbon management company Energetics found that if Woodside's LNG were used in iron ore carriers operating from the Pilbara, life cycle greenhouse gas emissions would be up to 33% lower than if heavy fuel oil (HFO) were used.

If all iron ore exports from the Pilbara were shipped using LNG fuel instead of HFO, the greenhouse gas savings would be up to 5.8 million tonnes of carbon dioxide equivalent per year.

"That saving is equal to taking 1.8 million cars in Australia off the road," chief operating officer Meg O'Neill told AmCham Australia in July.

Meg said technology and innovation had given Woodside a competitive edge in the global race to deliver the next wave of LNG.

Woodside believes there is a growing place for LNG as a lower-carbon and lower-polluting shipping fuel, and is planning infrastructure that would enable the export of iron ore from the Pilbara to Asia to transition to a fleet of LNG-fuelled ships.

By producing LNG in the Pilbara, near to where the customer ship would be supplied with LNG, it avoids the "carbon miles" associated with transporting LNG to an international port, before it is loaded on to a refuelling vessel to supply the customer ship.

Two years ago, Woodside formed the Green Corridor Joint Industry Project with resource companies BHP, Fortescue Metals Group and Rio Tinto, and shipping industry participants.

According to Craig Jennings, opportunity manager Power and New Markets, since then there has been a global sea change in attitudes to the concept of LNG as a marine fuel.

The bulk shipping sector now has four firm orders for LNG-fuelled bulk carriers that will operate between the Pilbara and Korea from 2021.

BHP also recently announced a tender

for LNG-fuelled bulk carriers for up to 27 million tonnes of iron ore.

The International Maritime Organisation's January 2020 deadline for cleaner shipping fuels will see new rules implemented meaning sulphur content allowed will drop from 3.5% to 0.5%.

This upheaval in the market will increase the cost of shipping fuels and support owners in deciding to choose LNG for newbuild ships.

Craig says LNG produces almost zero sulphur or particulate emissions, so would provide full compliance with the IMO's 2020 regulations as well as tighter restrictions that may arise in the future.

"While 0.5% is a big step change for the shipping industry, this still allows for 500 times more sulphur in the fuel than is permitted in diesel supplied in Australia and most OECD countries," he notes.

Woodside recognises LNG's share of the shipping market is still small; but it presents the opportunity to demonstrate industry collaboration at its best, using Australian LNG to fuel exports of Australian resources while supporting a step-change reduction in emissions.

Farewell to respected pioneer

Australia's oil and gas industry has lost a pioneer and Woodside a hugely respected leader with the death in September of former Chairman Bill Rogers AO.

He was 93.

"Bill was a remarkable man who leaves an incredible legacy," said chief executive officer Peter Coleman.

"Woodside's still speak of the need to be resilient, determined and courageous. We know the value of this because he led the way.

"He will forever hold a prized position in Woodside's history."

Bill succeeded company founder Geoff Donaldson as Chairman of Woodside in 1985, and served for 14 years. During that time he steered Woodside along our journey from small but ambitious company to Australia's largest independent oil and gas operator.

He took the helm when the North West Shelf (NWS) Project had just begun producing domestic gas and was preparing the trail-blazing move to enter the LNG market.

Bill's first year was hectic – not least because of a takeover attempt by Shell – and his first task was to ensure Woodside's survival before he could turn his attention to building the company.

Sales agreements were signed with eight Japanese gas and power companies to underpin exports, and construction started on the Karratha Gas Plant's first two LNG trains.

Contracts were signed for a fleet of LNG carriers, work started on a new offshore platform and our rapidly growing company opened a new office in Perth's centre.

The first cargo of LNG from the NWS left port in 1989, marking our entry into shipping.

New resource discoveries and facilities followed, including the Goodwyn gas platform and Cossack Pioneer floating production storage and offloading (FPSO) facility.

By the time Bill stepped down as Chairman in 1999, Woodside's portfolio and reputation had grown significantly. The company had become known for its independent, can-do spirit and a plucky resolve to achieve beyond expectations.

David William Rogers, the son of John and Irene Rogers, was born in Sydney in 1926 and attended Malvern Grammar School before boarding at Geelong College.

After school, he enlisted in the army, serving as a signalman with the Central Bureau Intelligence Corps in New Guinea and the Philippines.

Upon discharge in 1945, he enrolled at the University of Melbourne to study law, later becoming senior partner with a major law firm.

Board positions, including stints with AMP and BHP, brought him into the world of oil and gas, eventually leading to the Chair of Woodside.

In 1998, his outstanding contribution to the legal profession and oil and gas industry was recognised when he became an Officer of the Order of Australia.

His dedication to education was also praiseworthy.

In 1992, he became the fifth Chancellor of Monash University, and two years later he received an honorary Doctorate of Laws from the university.

In 2016, he returned to Monash to view the Woodside Innovation Centre and address students.

Bill's love of learning and respect for the pioneering ways of his mother prompted him to set up the Irene Rogers (Lowe) Scholarship for Agriculture at the University of Melbourne.

In 2013, the fourth LNG tanker in the Pluto fleet – the Woodside Rogers – was named in his honour.

Bill was father of four – John (dec), Mandy, James and David – and husband to Jan.



Taking the helm: Bill Rogers steered Woodside for more than a decade as Chairman; right, with wife Jan at the naming ceremony for the Woodside Rogers LNG carrier in Korea in 2013.



Safe hands: Luke Gauci, Lance Hayden, Hailey Norris and Adam Nicholas review the successful collaboration which delivered a safer water handling module for the Pluto offshore platform. Right, the module's filter coalescer bundle.

Benefits **filter** through

Continuous improvement combined with close collaboration between contractors and Woodside has delivered big benefits for Pluto's future.

As production from the Pluto gas fields matures, water is expected.

To mitigate the impact of potential water reservoir breakthrough, a water handling facility was deemed necessary on Pluto Alpha (PLA) offshore platform.

The Pluto water handling (PWH) module is scheduled to be installed on PLA in 2020, with ready for start up in 2021.

Last year, Woodside awarded TechnipFMC a contract for the engineering, procurement, construction, installation and commissioning of the PWH module and in turn, TechnipFMC awarded contracts and managed vendors across the globe to build the module.

Initially, the module's design had the filter coalescer package (which removes oil in water prior to discharging overboard) located on the extremities of the module, but further review revealed this position was not possible.

Moreover, the original design required the manual removal of potentially more than 100 filter elements, each weighing up to 50kg, every 10 weeks.

"The initial proposal, including a bolted lid arrangement, was a common set-up

in the oil and gas industry," explains Lance Hayden, PWH operations readiness lead.

"But it did present risks in health and safety exposure and manual handling to those workers carrying out that task."

A safer alternative was identified, thanks to mechanical engineer Luke Gauci and an enthusiastic engineering team with a collective mindset of improvement and technology.

"They helped turn a vision into reality," Lance says.

"The Woodside team worked with the contractors to influence safety in design and guide them to develop a solution that would not only conform to our engineering standards but still meet budget and schedule."

New video link technology at Mia Yellagonga helped keep channels open to the Malaysian sub-contractor in weekly sessions.

A mindset of ruling out no ideas led to a new solution: an interchangeable bundle arrangement for the coalescer package and a filter-lifting frame for the solids filters.

An overhead monorail with electric hoist minimised the amount of manual handling required.

"Both systems were a world first for the

vendor and significantly reduced the health and safety risk to personnel as well as the time taken to execute the activity," says Luke.

"It means filter changes will take hours not days."

Lance says the costs associated with the change were quite negligible, considering the frequency of the activity and life of the asset.

"In fact, if they are selected in other projects at the front end engineering design (FEED) phase, those extra costs could be completely negated," he notes.

Both the contractor and TechnipFMC are very happy with the design, and the collaboration has produced a great sense of accomplishment.

Gordon Mathwin, general manager production support, points out: "This is a great example of how getting the end users - Operations and Maintenance - involved early when making design decisions on projects can generate tremendous benefits, in terms of both full lifecycle costs of ownership as well as health and safety considerations for our people."

"Innovation is not always about SMART technology; it can also start with an idea to improve existing mechanical design - not only to improve safety but also to reduce OPEX cost in the production phase."

Steeling ourselves for future

At first glance there seems little to connect fabric maintenance and Woodside's ambitious growth strategy, but senior vice president North West Shelf (NWS) and Burrup Niall Myles points to a critical link.

"One of the keys to the success of the Burrup Hub vision is that it leverages existing infrastructure, so we need to ensure our assets are capable of providing a reliable revenue stream to power our ambitious growth portfolio," Niall notes.

"Even more important is that we need to protect those assets to ensure the safety of people and the environment because steel keeps us safe."

But it needs our help.

That's why a review was instigated in 2017 to examine the effectiveness of the "inspection to maintenance" corrosion management process.

That review ultimately launched a project in 2018 to refine and improve our ability to manage corrosion in an effective, timely, comprehensive and cost-effective manner.

Its aim?

Replace reactive policies and embed proactive practices into our corrosion management programs with consistent and easy-to-use processes employing proven technology to ensure a minimal backlog of maintenance jobs.

"Corrosion management is base business and it's good business," asserts project manager Stuart Bond.

"Our vision is to ensure one consistent, efficient way of managing corrosion. And we must ensure that we control corrosion, not be controlled by corrosion."

Leveraging a trial at the Karratha Life Extension (KLE) project at Karratha Gas Plant (KGP), the project will be extending best practice to Woodside's two onshore gas plants, NWS Gas offshore platforms and the Okha and Ngujima-Yin floating production storage and offloading (FPSO) facilities.

Stuart explains the project has seven deliverables, one of which is a "find and

fix" or FAF which maximises value from inspections.

"It is as simple as adding a coating applicator to inspection teams to coat immediately to prevent build-up of backlog and associated administrative burden," he says.

"We have employed FAF on three assets already, and with instant success."

"The monetary savings from this single deliverable in the year to date is already significant."

But FAF is just one of the seven deliverables, suggesting total savings will be substantial.

The remaining six will create further wins with a new Corrosion Management procedure and Dashboard for consistent performance measurement, a review of the CM organisational accountability, revised and automated Integrity Operating Windows (IOWs), Risk Based Inspection (RBI) updates, a new Area Based Strategy approach, and an accelerated plan to standardise new

Inspection Database technology.

An international benchmarking expedition in March validated (and helped improve) our plans for preventative corrosion management.

Ty Chapman, general manager brownfields projects, has first-hand experience of the project's successes.

"Its benefits include standardising key learnings from large external corrosion refurbishment projects and embedding these as base business across all of our assets," Ty says.

"We need to be proactive and eliminate the need for life extension projects.

"And being proactive means focusing on repairing coatings rather than repairing steel."

Niall says our Burrup Hub vision is a cornerstone of our growth portfolio, adding: "Projects such as these involving fabric maintenance go to the heart of our ability to leverage existing infrastructure to make that vision a reality."



On the front foot: Ty Chapman, Stuart Bond and Andrew Lobb have worked to embed proactive practices in corrosion management in place of reactive policies.

Greater Enfield hits ‘double century’

All 12 development wells are complete, subsea infrastructure installed, and production of the Greater Enfield Project (GEP) has started.

“Our campaign set out to safely deliver 12 development wells, make a positive impact on the local community and set new best-in-basin performance through continuous improvement,” reflects drilling superintendent Bob Brewin.

“And that is exactly what we’ve done”.

GEP will deliver up to 10 MMboe (Woodside share) a year – a significant step towards Woodside’s target of 100 MMboe annual production by 2020.

The wells were delivered 100 days ahead of schedule, \$100 million under budget, and with zero health, safety and environment recordable incidents in 2019 – protecting our people, and the environment, next to the world heritage-listed Ningaloo Reef, off Exmouth on Western Australian’s coast.

“It’s like scoring a double century,” says lead completion engineer David Kent, adding there were no easy “runs”, either.

“We had to deal with complex wells and super-thin reservoirs – some as narrow as 1m – as well as marginal fields that

were not economically viable on their own,” David explains.

GEP comprises three fields – the Laverda Canyon, Norton over Laverda and Cimatti oil accumulations – via a subsea tie-back to the Ngujima-Yin.

The floating production storage and offloading (FPSO) facility returned offshore Exmouth in early May after a major refit in Singapore.

Performance was outstanding, according to well delivery manager Jack Pearse.

“Many operators have delivered wells in the area, but we were the fastest in terms of days taken per 1000m of well, which is the industry benchmark,” he says.

“We call this ‘Best in Basin’.

“Moreover, we also set an Australian record with the longest drill bit run of 3.5 km, and a world record with the longest water injector reservoir ever delivered.”

“Collaboration was all important to the success of the well campaign,” notes lead drilling engineer Damon Clarke.

“We enjoyed close collaboration between subsurface, drilling and

completions (D&C), the business partners and logistics to deliver the wells, and close collaboration between subsea and pipelines and D&C to remove all simultaneous operations delay from the project.”

Gary Jones, vice president D&C, says he loved the “One Team” approach.

“Greater Enfield set a new benchmark for collaborative well delivery,” Gary enthuses.

“The joint team approach to production attainment, getting the most out of the reservoir by steering the wells to maximise reservoir intersection and successfully deploying world-first water injection technology, was outstanding.

“Plus, the experience we’ve gained in drilling long wells in thin reservoirs set us up for success in similar wells planned for Senegal.”

A logistics base was established in Exmouth, which had the dual benefits of creating local employment and saving on tool rental costs.

As chief operating officer Meg O’Neill says: “It is fantastic to have the drilling program completed well ahead of schedule and with strong safety and environmental performance.”



Well done: Greater Enfield set records while safely delivering a dozen development wells for a project critical for the company’s growth.



Complex challenges: Extending the life of Okha's riser turret mooring, top, required the removal of more than 100 cubic metres of degraded foam, bottom. Steve Meerton and Tom Holland, right, review the lessons learnt from the challenging scope.

Rising to the occasion

Complex and challenging work on the Okha floating production storage and offloading (FPSO) facility has been successfully concluded thanks to some outstanding collaboration between Woodside and contractor Vertech Group.

The Okha is stationed about 135 km north west of Karratha above the Wanaea oil field.

Its riser turret mooring (RTM), originally installed in 1995, is due to reach its 25-year design life at the end of 2019.

Extending that life to achieve the end of field life date of 2031 is one of Okha's top priorities.

The RTM life extension project began in 2016 and in that year corrosion was discovered in the J-tubes.

J-tubes are pipes which allow for the subsea flow lines and umbilicals to run from subsea to Okha's oil processing modules internally through the RTM.

Further mapping the following year revealed the full extent of the corrosion.

"Corrosion in the J-tube is the highest risk to the life extension program and if it leads to a complete through-wall defect it could pose a threat to the riser column itself," explains Steve Meerton, Okha maintenance team lead.

A composite wrap was applied to the most at-risk J-tubes in the RTM's compartment number 8 during the RTM project of 2018.

This year's scope aimed at mitigating a possible J-tube leak in compartment number 9 – a completely sealed void space about 10m underwater, 5.5m high and 98% filled with hardened foam.

The foam had been installed to provide buoyancy if the compartment were ever breached.

The Vertech Group was set the task of planning how to gain access, inspect and repair the J-tubes, and Vertech's Tom Holland reports the scope was extremely complex.

"Challenges included pre-ventilating the inhospitable atmosphere in compartment 9, removing some 113 cubic metres of hard foam and then welding a manway and ventilation ports," Tom explains.

Only then could the inspection and refurbishment of the J-tubes be conducted.

He adds removing the foam was a challenge because atmospheric samples had indicated it had degraded over time and was expelling toxic compounds.

Wearing personal protection equipment

(PPE) of a full chemical suit and long line breathing apparatus would have increased an already high heat-stress risk to levels close to unacceptable.

To devise a solution, project specific heat stress trials were conducted and the Health Safety Environment and Quality function worked with Vertech to replicate offshore conditions, personnel exertion levels, hydration levels and PPE.

These trials determined time limitations and safe PPE requirements for those working within the RTM, as well as developing another 10 health and safety recommendations.

When completed, the 2019 scope is expected to have taken 22 weeks of mostly 24-hour operations of 22 workers and have resulted in more than 650 km of walking up and down ladders and consuming more than 20 million litres of breathing air.

"What Vertech has accomplished on the RTM project shows how we can achieve world-class results on complex scopes when we work closely with quality contractors," says Shannon Byers, maintenance superintendent 1FPSO.

"Managing the HSE performance during this activity has set the bar for how we should manage high-risk scopes in the future."



Surveying the scene: Extensive consultation and collaboration internal and external has delivered the Browse development concept an enormous amount of geophysical, geotechnical and environmental information, including seabed details never seen before.

Browse completes valuable surveys

The Browse development off the coast of Western Australia constitutes Australia's largest untapped conventional gas resource: contingent resources of 13.7 trillion cubic feet (Tcf) of dry gas and 390 million barrels (MMbbl) of condensate.

Little wonder, then, that everything involved with bringing those resources online is of mega proportions.

For example, almost 1000 km of trunkline will be needed to transport the gas from fields 450 km off the Kimberly coast to Karratha Gas Plant (KGP) onshore. That requires an incredible amount of geophysical, geotechnical and environmental surveys to acquire data for its design and approvals.

In July 2017, the Browse Joint Venture engaged our geotechnical operations (GTO) team to undertake the Browse to NWS project surveys.

First came a study to catalogue and assess the available data along the nominal Browse Trunkline (BTL) route, from Scott Reef to the North Rankin Complex.

"But for much of the remote section of the route, there was little or no information available," says Karl Perry, GTO survey operations manager.

Australian company Atteris won the contract to carry out the trunkline engineering and route selection.

GTO drafted the survey's scope of work after consultation with internal stakeholders including the Browse pipeline team, geotechnical, geohazards, marine assurance and Health, Safety and Environment.

Neptune Geomatics won the contract to conduct the reconnaissance, geophysical, environmental and geotechnical surveys to generate sufficient information to make informed decisions.

In Q4 last year a highly successful rapid reconnaissance survey, using a vessel-mounted Multi-beam Echo Sounder (MBES), covered 4660 km.

"Survey results were assessed in near real time onboard by Woodside and Atteris, with decisions being made about the route and scouting of alternatives as the survey proceeded," explains Alan Gillen, export pipeline lead.

This reconnaissance survey confirmed the concept BTL route was viable and free of major geohazards such as canyons.

It also enabled the creation of a preliminary environment habitat map - important for a targeted environment survey.

More surveys followed.

"The fieldwork has been extremely challenging, not only because of the remote location but also because of the sheer magnitude of the survey work

inevitably meant schedule changes and a variety of seasonal conditions to contend with," says Lee Woolhouse, GTO senior surveyor.

"But notwithstanding the complexity, the health, safety and environment outcomes were outstanding."

Browse subsea and pipelines delivery manager Patricia Long agrees.

"From the start, the teams have demonstrated Our Safety Culture by communicating openly about change in schedule, speaking up about concerns and risks, being mindful of the remote location of Browse, getting involved by attending each mobilisation and crew change, and managing the risks of fatigue on a small crew for long durations," Patricia notes.

While final data processing is ongoing, preliminary data is of very high quality and reveals details of the seabed not seen before.

Senior vice president Browse Richard van Lent says: "The completion of these surveys is a great achievement and testament to the leadership and collaboration between GTO, Browse trunkline and the HSE teams.

"It's an important step on the path to the start of front end engineering design (FEED) by the end of this year and on the longer journey of bringing the Browse to NWS concept to fruition."

Innovative seismic for Senegal

Woodside's first major field activity as operator of our offshore joint venture in Senegal is a ground-breaking four-month seismic survey which began in late July and is proceeding smoothly.

Woodside has a 35% interest in the Rufisque Offshore, Sangomar Offshore and Sangomar Deep Offshore blocks (collectively known as the RSSD blocks) where SNE Field is located. The Phase 1 development area is situated about 100 km south of Dakar, the country's capital with water depth exceeding 1 km.

This seismic survey will enable optimisation of long horizontal wells to deliver first oil in 2022. It employs the latest geophysical technology including Full Waveform Inversion (FWI) to improve the imaging of the SNE complex reservoirs.

"We have acquired our first multi-azimuth broadband 3D seismic survey in an attempt to illuminate the complex subsurface of our giant field from different angles," principal geophysicist Hasan Sidi says.

A multi-azimuth seismic survey is analogous to illuminating a theatre stage with multiple spotlights from various angles. Together, they make the stage much brighter and the results leave no shadows.

The advanced technology is expected to better reveal the complexity of each reservoir layer in the field and should enable better targeting of the "sweet spots" in the planned 2021 drilling campaign.

"This survey will also provide the basis for an improved full field reservoir model and a reliable baseline survey for future time-lapse or 4D seismic monitoring opportunities," Hasan explains. Importantly, 4D will also help locate undrained hydrocarbons, optimise infill wells to ensure maximum recovery, and inform future development phases.

Senegal vice president Greg Mogan says it will transform our understanding of the many and complex reservoir structures located 3 km below the sea level.

"Currently the subsurface teams are using 2007 vintage 3D seismic that has only been shot in an east west pattern," Greg notes.

"This new 2019 3D multi azimuth seismic will be shot over the same area only in north south directions as well as SW-NE and SE-NW patterns. We will then have an unprecedented view of how the reservoir sands have been deposited and how they are connected."

The survey has also been expanded beyond SNE to cover our offset exploration and appraisal areas and is expected to finish mid-November.

Data processing will take about nine months and the results will keep the subsurface team busy prior to the drilling of the Phase-1 development wells.

One Senegalese who will be watching the results with keen interest is Moustapha Dia who arrived at Mia Yellagonga in May on a three-month secondment from Senegal.

After graduating from university, Moustapha honed his skills at an American oil and gas company exploring in Senegal onshore before he joined Petrosen, Senegal's national oil company and a participant in the SNE joint venture.

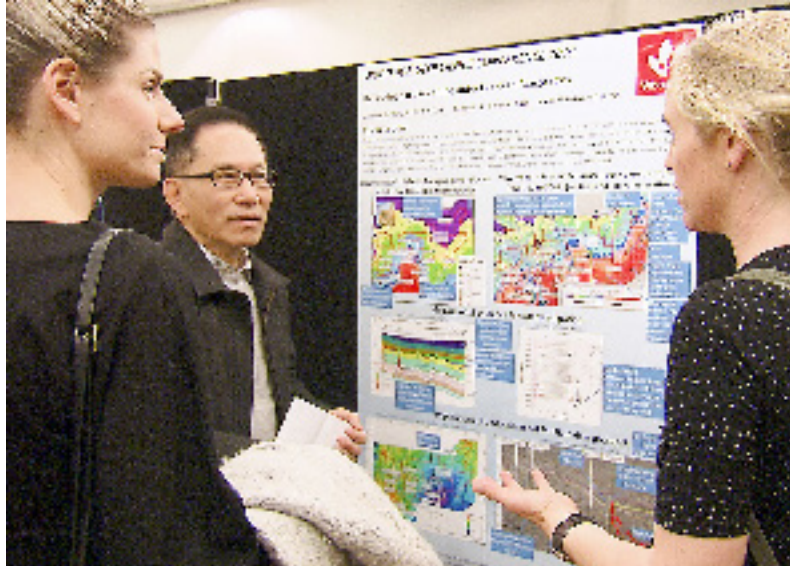
During the secondment, Moustapha was exposed to our reservoir management processes, received training and got an understanding of the geological workflows from discovery to development.

He carried out subsurface interpretations, seismic interpretations and reviewed the appraisal wells to assist with the SNE Phase 1 oil development well contingency plans.

"Moustapha also was fortunate to participate in a week-long Queensland geological field trip - a training opportunity to understand how geological analogues are used to constrain subsurface uncertainty in Woodside's fields," says SNE modelling lead Damien O'Rourke.



Senegal switch: Moustapha Dia from Petrosen, a participant in the SNE joint venture, discusses seismic surveys with principal geophysicist Hasan Sidi during his secondment at Mia Yellagonga.



Geoscience gathering: Executive vice president Exploration sustainability and global new ventures Shaun Gregory welcomes Trygve Randen from Schlumberger Software Integrated Solutions to the Geoscience Conference. Right, the conference attracted more than 180 people.

Cloud cover for geoscience

Woodside has signed a ground-breaking alliance with oilfield services provider Schlumberger.

The partnership centres on DELFI – Schlumberger’s cloud-based cognitive environment for exploration and production activities.

Subsurface technology manager Darryl Harris says DELFI provides an open platform.

“It’s analogous to all the apps on your smartphone being able to talk to each other and access all of the same data,” Darryl explains.

“DELFI is set to further our technical capabilities in evaluating subsurface opportunities.

“We’ll get access to all Schlumberger’s programs with unlimited licensing. It’s incredible access to Schlumberger’s technology that we haven’t had before.”

Principal geologist Stuart King adds: “It’s a way of managing different subsurface geological and geophysical data sets so that any piece of software or app can access the well data, seismic data and the like that it needs without having to import that data into the app.

“A lot of people believe big data, fast computing and artificial intelligence is the way of the future and that if we are at the pointy end of that revolution, we can gain a competitive advantage.”

The agreement with Schlumberger was unveiled at the Woodside Geoscience Conference by Shaun Gregory, executive vice president sustainability, exploration and global new ventures.

Shaun believes DELFI will help Woodside achieve our growth strategy by reducing time to final investment decision and lowering technical unit costs.

Trygve Randen, president of Schlumberger Software Integrated Solutions (SIS), spoke at the conference and declared he was impressed by Woodside’s innovative character.

“Woodside made the perfect partner for DELFI because it has the same pioneering mindset as our company,” Trygve said.

“Changing the way our industry works requires working with an innovative company like Woodside to push the boundaries.”

The Geoscience Conference has become an annual event on the Woodside calendar and this year’s conference was held late August in Perth with the theme “Technology and innovation in geoscience”.

It was organised by the geoscience technology (GT) and subsurface functional excellence (SFE) teams as a forum for all Woodside geoscientists

and technical professionals to share technical stories and insights.

Keynote speaker in the morning was Erica Smyth, chair of the National Offshore Petroleum Safety and Environmental Management Authority. Erica talked on “Our energy future”, the demand for mineral resources and the need for an enhanced focus on recycling.

Professor Simon Lang delivered the afternoon keynote address with his usual passion on his role and areas of research as the director of the Centre for Energy Geoscience at the University of Western Australia.

Closing presentations, by Tom Ridsdill-Smith, vice president Geoscience, and Darryl gave an opportunity for them to both reflect on the day, and also to look ahead and discuss Woodside’s activities in a rapidly changing and challenging energy future.

Stratigraphy manager and co-organiser Neil Marshall says he was very pleased with the success of the conference and its turnout.

“We had more than 180 attendees and there were three parallel sessions of technical presentations delivered by Woodside geoscientists,” reports Neil.

“These were 15 minutes each and produced an astounding 58 presentations.”

Making connections

Setting sustainable digital foundations and standardising digital services and working environments across our operations are key factors in ensuring those who work at Woodside have opportunity to contribute their best — wherever they are.

“Our connected site experience must add value, be front-line focused, flexible and reliable to enable our workforce,” says Cameron Robertson, strategic technology manager.

Woodside’s senior leaders have backed a major new program, Connected Sites, to enable teams to perform to their best ability with the very best IT equipment.

“The aim is to ensure our digital infrastructure enables our people to perform today while being future proof for our growth plans,” explains Scott Marshall, who kicked off Connected Sites in his previous role as adviser to senior vice president North West Shelf (NWS) and Burrup.

Goodwyn was the first offshore asset to benefit and its workers received new devices including laptops, curved

monitors and meeting connectivity as part of the Q2 upgrade.

Offshore installation manager Tom Walsh says the team appreciated the seamless switchover of work stations while the asset was operating.

Meanwhile, as part of the Connected Sites program, TechZone has spread its wings beyond Mia Yellagonga.

TechZone, which allows for drop-in visits by Woodsiders needing IT assistance, now provides coverage to all Burrup sites and can be found across Karratha Gas Plant, the King Bay Supply Base, Burrup Materials Facility and Pluto LNG Plant.

Lisa Saunders, Karratha digital lead, says: “They can be seen dispensing training, advice and IT support while wearing their distinctive purple vests with the TechZone brand.”

Cameron says that by the middle of 2020 all Woodside assets in the North West of WA and offshore Australia will benefit from the first stage of Connected Sites.

Chief operations officer Meg O’Neill says: “The success of our Connected Sites program is underpinned by the fact that ‘our IT just works’ on whichever Woodside asset you are in the world.

“Getting this base layer right before we grow is crucial.”



Supporting role: As part of the Connected Sites program, TechZone’s assistance has been rolled out across Woodside’s assets.

A GEM of an event

Technology helped spread the good word at a July GEM (Gender Equality Matters) event with our video conferencing system Webex helping connect Woodsiders at Karratha Gas Plant (KGP) and Mia Yellagonga.

Entitled Humans of Karratha, the event’s purpose was to showcase diversity and connect people.

“It was quite unlike any other GEM event we’ve held,” enthused GEM co-chair Fiona Chow.

“Our people used the Webex technology to tell their stories and experiences.”

Bilal Saleem, an instrument and controls engineer, described he challenges

he had to overcome in his move from Pakistan to Australia. He talked of his delight and gratitude that Woodside provides prayer rooms at KGP.

Lauren Werchon, a fourth year instrument electrician (inlec) apprentice, shared the challenges she faced as a mature age apprentice and mother. She drew a laugh from the audience when she told of how excited she had been to have the offshore team cook and clean “when all I have to do is work”.

Sherry Duhe, GEM sponsor and chief financial officer, said that in her extensive travels she had noticed that “inside, everyone is the same”.

The event was deemed a great success, with Webex helping bring together a collection of Woodsiders and helping them learn a little bit more about each other.



Doubling up: Thanks to the Webex technology, materials coordinator platforms Carly Wieland simultaneously addresses the Karratha and Perth turnout of the Humans of Karratha GEM event.

Lunar tapes land at MY

One small step for man, one giant leap for mankind.

These famous words, spoken by astronaut Neil Armstrong as he took the first steps by a human on the moon, remind us of a significant milestone in achieving the impossible.

And Woodside has been able to secure a scientific data tape that helped put Armstrong on the moon.

"The moon landing was a significant achievement that celebrated innovation and this tape is directly linked to mankind's greatest adventure," says graduate geologist Brady Gower.

The tape was sold to Woodside by Professor Brian O'Brien, who helped solve some of the many mysteries of lunar dust.

"We bought the tape as it is a symbol of the efforts of innovation, collaboration and acceleration to achieve milestones in history," says Brady.

"We also wanted to remind Woodsiders of the struggle required to achieve great results."

The historic tapes, previously owned by NASA, were used to capture Professor O'Brien's research in moon dust. They were showcased at an event at Mia Yellagonga in July, celebrating the 50th anniversary of the 1969 moon landing.

"We first came across Professor O'Brien when Woodside was developing the concepts for the North West Shelf project in the 1970's," says Brian Haggerty vice president innovation capability.

"Back then, he was the Foundation Chairman of the Western Australia Environmental Protection Authority.

"More recently, we became aware of Professor O'Brien's connection to the historic data tapes and we invited him along to the event."

Professor O'Brien was previously

NASA's principal investigator into lunar dust and is now an adjunct professor of physics at the University of Western Australia.

The tapes, which resemble film reels, were kept by him when NASA no longer had use for them.

Brady notes that eventually NASA needed to revisit the lunar dust data.

"The only issue was that the technology used to read the information on the tapes was now extinct," he says.

"Professor O'Brien's manager came up with a solution to re-engineer an old piece of technology to read the old tapes and that research is now being used for future space expeditions."

The scientific data is now stored electronically - a prime example of innovation.

Brady, who helped to organise the anniversary event, highlighted the event's significance in the importance of storytelling and the importance of sharing our learnings and experiences.

"Revisiting past technology and learnings to help with future problems is a key takeaway from this event," he says.

"Having the chance to meet Professor O'Brien was an opportunity not to be missed."

Both Brians share more than just the name - they share the same interest in pioneering the impossible.

"The moon landing anniversary comes at a time where we're on the cusp of scientific and technological breakthroughs for Woodside," says Brian.

"The link to the pioneering spirit and embracing opportunities ahead, no matter how hard they may seem, is something that resonates with all Woodsiders."

One of many tapes can now be found in the Technology home zone on Level 20 of Karalak.



Over the moon: Brian Haggerty, Brian O'Brien, Brady Gower and Guy Holmes marked the 50th anniversary of the moon landing with an event in Mia Yellagonga.



Game on: Left, Imtiaz Maroef and Perrine Lombart learn about Licence to Operate under the guidance of change manager Noelle Loh; right, project lead Stephen Standley says the board game is best played between people with different roles.

Game delivers crucial lessons

Boards games don't have to be reserved for rainy days on holidays or non-television nights for the kids.

A new board game devised at Woodside has a purpose more serious than accumulating miniature plastic houses along Park Lane or avoiding snakes and climbing ladders.

It's called Licence to Operate and it aims to advance the cause of "regulatory required maintenance".

Regulatory required maintenance refers to maintenance activities to be carried out in order to comply with regulatory obligations specified within an Act of Parliament, a regulation or a prescribed standard.

"The aim of Licence to Operate is to generate conversations with your peers about safety and compliance," explains Stephen Standley, the project lead for the Regulatory Maintenance Project which came up with the idea for the board game.

"You make your way through the game by answering the questions about our new regulatory required maintenance framework, and there's even a jail like in Monopoly."

The game takes around 90 minutes to complete and requires three players in

two teams, plus a game master who is in charge of the answer book.

"It's essentially a learning exercise because you have to get to know each of the other players and their role in regulatory maintenance.

"So it's best played with people who have different roles within the company."

Stephen and his team were looking at how best to communicate the importance of compliance and safety but had difficulty landing on the right formula.

Videos and presentations were created but the team wanted participants to immerse themselves in the scenarios rather than be passive spectators.

"So we thought, how about doing something more collaborative, where we can teach people to find the answer with the resources that we have created? How about making it a collaborative learning experience," Stephen recounts.

"We were looking at an electronic game but there's something special about the look and feel of a physical board game.

"We're very happy with the product."

A great deal of time was spent

discussing the proposed questions with Maintenance, Engineering and regulatory compliance to ensure the answers were correct.

Then a pilot was trialled in Karratha in July and the game started to be rolled out in August among Maintenance, Operations and Engineering.

Six copies of Licence to Operate have been ordered and the idea is that eventually everybody in those three disciplines will have played it at least once.

"This was certainly one of the more engaging and effective learning experiences I have undertaken of late," reports Karratha Gas Plant operator Damien Muller who took part in the July trial.

"The inclusion of Ops, Engineering and Maintenance in the session certainly helped with each discipline bringing their part in the process to the experience."

Change manager Noelle Loh developed the game and is happy with the feedback.

"We hope that this experience – excuse the pun – is a game changer when it comes to learning at Woodside, as we continue to encourage people to adopt new ways of working," Noelle says.



A day in the life of a ... resourcing manager

Helping candidates along the path to a rewarding career while simultaneously satisfying Woodside's need for a talented diverse workforce to meet its growth strategy is all in a day's work for Nicole Magill.

Nicole's role as resourcing manager both fulfils her desire to help people and utilises her skills in networking.

"In the case of graduates, you are essentially setting up somebody's lifelong career and securing their future," she says.

"With more experienced recruits, it's perhaps a little less significant; but you're still helping support their families and fulfil their ambitions."

It's a far cry from her first calling.

At 17, Nicole moved from her hometown of Collie in Western Australia's south west to study nutrition at university in Perth.

On deciding that career path wasn't for her, she switched to an office job combined with studying for a business certificate.

And she furthered this new-found interest in the corporate world with a

business degree – a double major in human resources management and accounting.

First job after graduation was as recruitment administrator for a company working on a Woodside contract before she moved to Vancouver, Canada, where she gained experience as a recruitment agency consultant – and got a taste for snowboarding.

In 2011 Nicole returned to Australia and worked at BHP as a resourcing specialist on site.

"I enjoyed it but I wanted to return to the oil and gas sector and the city, and after two years I applied for a job as a resourcing adviser at Woodside," she says.

She began supporting Production's external talent requirements and in 2016 stepped into an acting team lead position.

The next year, Nicole was appointed resourcing manager.

"I give my team guidance on recruitment up to executive level across the whole organisation," she explains.

"I love being able to connect with

people who are passionate about the oil and gas industry."

Outside work, Nicole is an enthusiastic netball player. And she loves to travel. "It's what I work hard for," she says with a laugh.

Below is a typical work day.

7:30am: On the bus ride to work I take the opportunity to check and respond to some emails on my phone. It makes for a productive 20 minutes.

8am: First up is a meeting to discuss updating the team's structure and Woodside's resourcing model. As manager, my role is to focus on the strategy to ensure we can deliver the company's needs for its growth strategy. To achieve this, we've run a production recruitment campaign to display what Woodside has to offer. It's the biggest campaign we've run since Pluto LNG plant came on stream in 2011 and more than 5500 applications were received. We recruit the best global talent – high-potential, high-performing diverse talent who will be at Woodside for a long time or will finish their careers here. The campaign opened in April and ran for six weeks with the theme "growth for us means opportunities for you". We've recently completed our



Talent scout: Clockwise from overpage, resourcing manager Nicole Magill aims to deliver the company's needs for its growth strategy; discussing recruitment with her team; the latest recruitment campaign resulted in more than 5500 applications; Nicole says she loves to travel; and discussing recruitment with senior vice president Projects Mike Robinson.

Production Assessment Centre and are preparing to make offers. This campaign also presents an exciting opportunity for Woodsiders who are involved in the recruitment process as "short listers" or business assessors. They've essentially selected talent who will complement our existing workforce to enable the company to deliver on its strategy.

9am: A meeting with the Senegal team to discuss who is needed for the SNE field development. I'm leading a tender in partnership with Contracting and Procurement (C&P) to recruit third party contractors (TPCs) in Senegal. Contractors bring specialist expertise for the duration of a campaign or project. I'm also helping the Myanmar team on its requirements for the drilling campaign, to understand international drilling requirements and how many TPCs are required, and when.

10am: I meet with some provider agencies which specialise in recruitment for the oil and gas industry in Australia. At Woodside, my team member Michelle Hardwick looks after the day-to-day performance of the contracts. I'm the contract sponsor for TPCs in Australia and manage the commercial side of the contracts and the strategic side of vendor engagement. I'm also company representative for Woodside's international TPC requirements, so I look after the day-to-day performance against the contracts across the globe.

11am: A meeting with colleague Lindsey Allen to discuss graduate applications both for the Graduate Development Program (GDP) and for the summer

vacation program, which is the primary feeder for the GDP. We start recruitment for the GDP in February, visiting university campuses across the country, and hold an assessment centre for applicants in early May.

This year we received 6278 applications for the GDP and the summer vacation program – the largest number we've ever received. That was probably due in part to the re-branding of the recruitment campaigns to an updated and more innovative representation of the company, its culture and its exciting pipeline of job opportunities. In Q2 we made offers. Usually, we offer around 100 places on the GDP.

12pm: I like to check in with all my team, so we lunch together once a week. We call it "Waffling Wednesday" and it's a great opportunity for us to connect with each other and hear about what exciting things are going on in our lives outside work.

2pm: A weekly skill pool meeting to support the Burrup Hub campaign. This one updates key Production stakeholders on how the campaign is tracking and provide updates on the engagement strategy for external talent which has been developed with Corporate Affairs.

3pm: I'm off to Karratha to co-facilitate an assessment centre for Logistics talent, so I take some time to prepare for that.

4pm: At the beginning of the year, I met with all the functional general



managers, vice presidents and senior vice presidents to gauge their external resourcing requirements for 2019. I've followed this up with half-yearly meetings with Projects and Subsea and Pipelines to check how things are progressing.

5pm: I receive a lot of contact from candidates through LinkedIn, so I try and end my day by replying to those contacting me on job and partnership opportunities.

6pm: Netball practice tonight so I dash home to collect my gear for training. Netball is a good way for me to get some exercise, switch off from work and catch up with friends. And it's much easier in Perth to play netball than snowboard.



Taking off: A new agreement to share helicopter services with other resources companies will deliver great benefits for years to come.

Sharing services delivers dividends

Woodside and three oil and gas companies have devised an innovative agreement to share helicopter services in Western Australia's North West.

The five-year agreement with CHC Helicopters covers passenger traffic, medical evacuation (Medevac) and search and rescue services for Woodside, BHP, Jadestone Energy and Vermilion Oil & Gas.

It took two years and the collaboration of more than 70 internal and external stakeholders to complete the agreement, which came into effect on 1 May.

More than 40,000 passengers a year are expected to be transported between the Karratha Heliport and facilities on the North West Shelf and North West Cape.

Woodside is expected to utilise a majority of the flight capacity, from the core fleet of four aircraft. A fifth aircraft will be available during cyclone season and other times of increased activity.

"For Woodside, the business objective was to develop safe and reliable helicopter services by optimising efficiency, managing and mitigating risks, leveraging new technology solutions, and sharing and exploiting market opportunities in line with our overall aviation strategy," aviation and travel manager Stefan Mischke points out.

"The helicopter sharing agreement delivered just that."

Delivering the project required a dedicated contracting and procurement (C&P) specialist from each company and senior C&P adviser Mirjana Niketic represented Woodside.

"Collaboration was needed not only within each of the companies involved but broader collaboration between all four participants," Mirjana notes.

Working groups based on such skill sets as health and safety, legal, security and technical comprised more than 20 people.

"Participants were able to develop an unprecedented tender which would become fundamental to supporting our offshore activities in the North West of WA," adds Mirjana.

"This project brought together the highest standards and best practices from each of the four participants, including aircraft standards, tender processes and operational excellence."

Aviation operations supervisor Karen Anstey agrees.

"The participants worked together to align their requirements to achieve the best outcome for all," Karen points out.

"The highest company requirement became the norm."

Mirjana says the HSA has resulted in an increase in aircraft utilisation, realised cost savings, improved services and returns for all participants compared to previous agreements.

Since the contract came into force, Mirjana says its benefits have included:

- A 40% reduction in aircraft numbers, resulting in a reduced carbon footprint of around 350 tonnes of CO₂ plus significant cost savings;
- Increased employment and training of local workers and apprentices, including Indigenous Australians; and
- Improved search and rescue and Medevac coverage for the five participants through standardisation of equipment and processes.

CHC's regional director APAC Vince D'Rozario says: "Operating offshore from Karratha, Exmouth and Port Hedland for over eight years, we have built a great relationship with each of our customers, and passengers.

"The HSA provided an opportunity for us to demonstrate our long-term commitment to these relationships through a value-for-money solution that not only supports the industry in this challenging economic climate, but also allowed CHC to maintain our strategic presence in the North West Shelf."

Upgrade smooths offshore journeys

In 2014 Woodside set about working with stakeholders to improve the experience of flying by helicopter out of Karratha Heliport.

Woodside, helicopter operator CHC and the Wilsons and Menzies resources companies collectively had a vision to create a dedicated security screening, baggage and passenger centre for Woodside and its helicopter sharing arrangement (HSA) partners.

In April 2019, this vision came to fruition when the refurbished Karratha Heliport was opened.

Passengers now enjoy modern, fit-for-purpose heliport facilities before and after their journey offshore.

The aim was to improve passenger flow and experience, provide dedicated alcohol and other drug (AOD) testing facilities and reduce the amount of manual handling for ground support crew.

Additionally, the refurbished facility needed to cater for an increasing number of passengers – all of whom share Woodside's helicopter facilities as part of the new HSA (see page 20).

"Karratha Heliport was an ageing facility in desperate need of improvement," explains aviation operations supervisor Karen Anstey.

For example, AOD was undertaken in the women's toilets, which meant female travellers wanting to use toilet facilities had to be escorted to the other end of the hangar – hardly an ideal situation.

"I have so many of the offshore ladies express their happiness about the new facilities," Karen says.

First, a temporary facility was constructed and Woodside transferred its passenger-processing operations in December 2018.

Soon afterwards, the heliport was decommissioned and stripped bare, with only the basic external infrastructure remaining.

The building was extended, new walls erected, new rooms created, and challenges overcome.

For Woodside, the refurbishment means first-class facilities for staff and contractors being flown to company-operated offshore assets, such as North Rankin Complex and the Ocean Apex.

Karen says special thanks must go to Steve Lazic, Karratha Supply Facilities project coordinator, who played a key role in getting the project off the ground.

"He was instrumental in supporting and pushing the vision for change," says Karen.

"He is dearly missed by those who knew and worked with him.

"I made a personal commitment to Steve that I would see through this project because without him none of this would have happened.

"We now have a beautiful new facility and through all the work the offshore traveller community has been extremely patient and supportive."

Karen notes the project was delivered within budget and without safety or environmental incidents.

The Sodexo team of Steve McMannus, James Loy, Joel Rusden and Emanuel Rodrigues managed the project and their contractors in an extremely professional manner, she adds.

"Everyone involved should be very proud of what has been achieved," Karen says.

The heliport is managed by CHC, and service delivery manager Maria Coutinho says: "It will allow CHC to continue to deliver the best customer experiences possible for all parties in the helicopter sharing agreement."

Aviation and travel manager Stefan Mischke agrees.

"Through the hard work of everyone involved, we now have a modern facility that was designed with both the passenger experience and staff health and safety in mind," he says.

"It enables our growth plans across the Burrup Hub, and will provide us excellent service for a long time to come."



Heliport overhaul: Top, the refurbished Karratha Heliport now offers first-class facilities for offshore passengers. Below, some of the teams responsible for the successful upgrade.

Looking out for each other

Maintaining mental wellbeing is as important for overall health as exercise and a healthy diet.

So when brownfields projects drew up a health, safety and environment (HSE) activity plan for 2019 to support safe, reliant, enabled and highly skilled team members, a wellbeing program was deemed critical.

Mental welfare is an important part of the program.

“Good mental health is extremely important in high-pressure jobs and Woodside supports its employees to the utmost in achieving and maintaining this goal,” says onshore program manager Ehab Zabaneh.

Project engineer Clint Brown agrees.

“With our workforce taking on increased responsibilities, mental wellbeing is as important as physical wellbeing; both are crucial to a resilient and energised workforce,” Clint says.

In February, Clint was appointed to lead the brownfields wellbeing program, and an enthusiastic team of volunteers was formed, to build on what had been established in 2018.

It started with a brainstorming session, from which emerged a template of activities for the remainder of the calendar year.

These include individual and/or team

health challenges, social events, information sessions, and a monthly newsletter carrying information on wellness.

Another event had two Fremantle Dockers players visiting Mia Yellagonga in August to participate in a Q&A session on mental health and wellbeing.

Aaron Sandilands and Alex Pearce talked openly about their experiences and the tools and strategies the Fremantle Football Club has devised to develop, maintain and enhance mental wellbeing.

Usha Patel, brownfields performance manager, says: “Aaron and Alex spoke with great compassion about team wellbeing with examples we could all relate to and use.”

Senior vice president Projects Mike Robinson says: “It is critical that leaders can identify the mental wellbeing of their team members and assist as and when required.

“Such initiatives as this Q&A session build awareness about the vital importance of looking out for each other.”

Events planned for Q4 include a presentation to onshore personnel on common challenges, signs, symptoms and myth busting mental health, a Get on Track Challenge, and a BBQ supporting a mental health foundation.



Dockers' goals: Alex Pearce and Aaron Sandilands of the Fremantle Dockers join project engineer Clinton Brown for a brownfields wellbeing Q&A session at Mia Yellagonga.

Supporting Lifeline

A seven-strong crew from King Bay Supply Base and Woodside put on their finest for Lifeline WA's signature event, the annual Black Diamond Gala Dinner in August.

Lifeline WA raised \$340,000 – the most ever raised from the event – from the 300-plus guests and significant contributions from many organisations, including Woodside.

This incredible result will help ensure Lifeline WA can continue to help give hope to people in crisis and save lives.

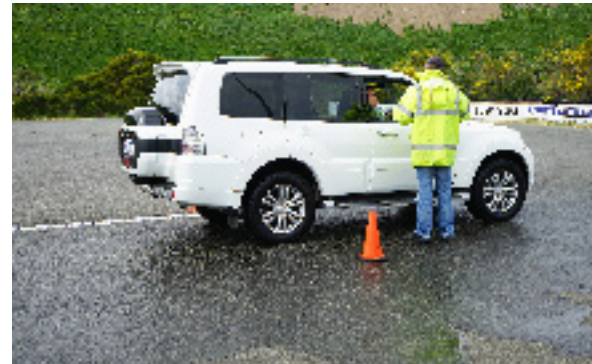
Management assistant Sandra Robertson was one of the Woodsiders in attendance.

“I think the team managed to scrub up well on the night considering most of us live in personal protection equipment and steel cap boots,” Sandra says.

“We were honoured to attend on Woodside's behalf and play a small part in helping to contribute to Lifeline WA's incredible work.”



Helping hands: Woodsiders were among the supporters of the Lifeline WA annual gala dinner.



Road rules: Driving is a key health and safety risk in our industry, and Woodside has engaged Drive Safety Australia to ensure those who self-drive to work have the right level of competency for changing road conditions.

Driving the **right** behaviours

Every day, Woodsiders and our loved ones interact with other road users – by vehicle, by bicycle, by public transport or by foot.

Last year, 1.35 million people worldwide lost their lives on roads. In Australia, the road toll was 1143.

As Woodside business activities expand internationally, our road-based risk profile inherently increases as the driving environments are typically different to Australian conditions.

In fact, driving is a key health and safety risk in the oil and gas industry with land transport-related incidents representing the single biggest cause of fatalities.

Thanks to the culture of continuous improvement, Woodside is always looking to reduce driving risks and Mark Watters, lead health and safety adviser and our driving safety subject matter expert, was recently involved in updating the requirements in the Woodside Driving Safety Procedure.

“We analysed the data from industry and Woodside incidents and used the key learnings to inform the new road-usage safety requirements,” Mark explains.

Some learnings are applicable both at work and at home.

Risk assessments are a critical activity to understand the local driving environment and determine whether it, and your state of health and wellbeing, are safe for driving activities.

Considering alternative options to self-driving in high-risk locations reduces exposure.

In some locations, flying is preferred over driving.

“Another practical solution is to engage a professional driving service which Woodside does in certain locations,” Mark advises.

“These driving services are contracted to apply our standards.”

He points to another key improvement as strengthening driver and passenger behaviour requirements.

“We know that the most common causes of driving-related events are speeding, distractions and fatigue,” Mark reports.

Taking driving safety home is a campaign that ran earlier this year, as driving constitutes a big risk in our lives outside work hours.

“We’ve recently been on family road trips and it’s really easy to become

distracted with young children in the car,” Mark notes.

“My wife and I will always share the driving on these long journeys to avoid getting fatigued behind the wheel.”

Another learning focuses our efforts on awareness and training.

Drive Safety Australia (WA) has been engaged to provide those who need to self-drive for work with the right level of competency to respond to changing road conditions.

“The new defensive driver training course is a great way for inexperienced drivers to learn practical vehicle-handling techniques to help deal with unexpected circumstances on the road,” Mark says.

“As an experienced driver I found that the training refreshed my personal focus on safe driving behaviours and remedied some of the bad habits I’ve picked up over the years.”

Whether we’re pedestrians, cyclists, motorcyclists or drivers – or all of the above – we can support each other and our families to adopt safer behaviours on and around roads.

The first step is to use this article as a conversation starter; the second step is to consider if a defensive driving course would benefit you and your family.

Alliance delivers two-way benefits

Challenging and rewarding, exhilarating and exciting, humbling and inspiring – these are some of the descriptions secondees to the Jawun program have used to describe their experiences.

“Jawun” means “friend” in the Kaku Yalanji language, and the Jawun program involves its corporate friends supporting Indigenous organisations.

Jawun is one of Woodside’s alliances and since 2011, almost 60 company employees have spent six-week secondments organised through Jawun.

Every year, Woodside seeks between 16 and 20 employees, from a variety of skill pools and diverse backgrounds and ages, for secondments.

Furthering the partnership is an excellent example of “drives strategic alliances”, which is one of the tier three leadership expectations.

The focus of “drives strategic alliances” is to build long-lasting collaborative relationships with external parties, and its promotion is being led jointly by the

Corporate and Legal and People and Global Opportunity (P&GC) divisions.

To help people understand how they can demonstrate their capability in this area, Corporate and Legal hosted an event in Q3 at Boolah daa moort to detail the company’s partnership with Jawun.

Diversity and inclusion adviser Bonnie Henderson, who is the P&GC focal point for Jawun, says Jawun provides an ideal example of how strategic alliances are driven, and driven well.

“While these secondments result in sustainable impact on Indigenous organisations and communities, Woodside secondees are also able to accelerate their personal development and experience Indigenous culture in a unique way,” Bonnie says.

Mike Abbott, senior vice president Corporate and Legal, said Woodside’s relationship with Jawun constituted a two-way street.

“It fundamentally changes the people who go on the secondments and the communities they serve,” Mike said.

“People go in thinking they’re going to help people but they come away saying they’ve learned so much more.”

To those contemplating a Jawun secondment, Mike advised: “You will come away from it with a different perspective on so many of the different issues we face in Australia.”

Three Woodsiders – Emma Kiekebosch-Fitt, Amanda Holland and Sean Salter – delivered short presentations of their Jawun experiences.

Emma worked in Fitzroy Crossing at the Marninwarntikura Women’s Resource Centre, which aims to break the cycle of intergenerational trauma through delivery of seven programs for 40 communities in the Fitzroy Valley.

Her brief was coaching and mentoring the programs’ managers.

Amanda worked for Gelganyem in the Lake Argyle area of the Kimberley to produce a health and safety framework, HSE procedures and policy, and management plans.

“It changes you forever,” she said of the secondment.

“It’s changed the way I approach Indigenous people and the way I work with them.”

Sean participated in a three-day executive visit to the East Kimberley where he was exposed to the secondees’ living and working conditions and the impact they were having, all of which was very different to his expectations before the visit.

“If you’re a supervisor of a Jawun secondee, don’t think they’ve disappeared on a six-week holiday,” Sean advised.

“The six weeks away from family and home make for a very challenging immersion.

“But these Indigenous organisations need the skills brought by the secondment.”

Those interested in a Jawun secondment should contact the inclusion and diversity team for further details.



Change agent: Amanda Holland spent six weeks in the Kimberley on a Jawun secondment, concluding: “It changes you forever.”

Preserving knowledge

The proposed Murujuga Living Knowledge Centre (MLKC) on the nationally heritage-listed Burrup Peninsula is a step closer following the announcement that Woodside will contribute \$4 million for the centre's construction through the Murujuga Aboriginal Corporation (MAC).

Chief operations officer Meg O'Neill said the contribution fulfilled part of the company's \$34 million commitment to the protection, management, research and transmission of the National

Heritage Values on the Burrup under the Conservation Agreement signed in 2007 between the company and Commonwealth Government.

"MAC's proposal to develop the Murujuga Living Knowledge Centre at Conzinc Bay as a world-class eco-cultural facility for the display and curatorship of rock art will attract Australian and international visitors," Meg predicted.

"It will also greatly assist the Indigenous

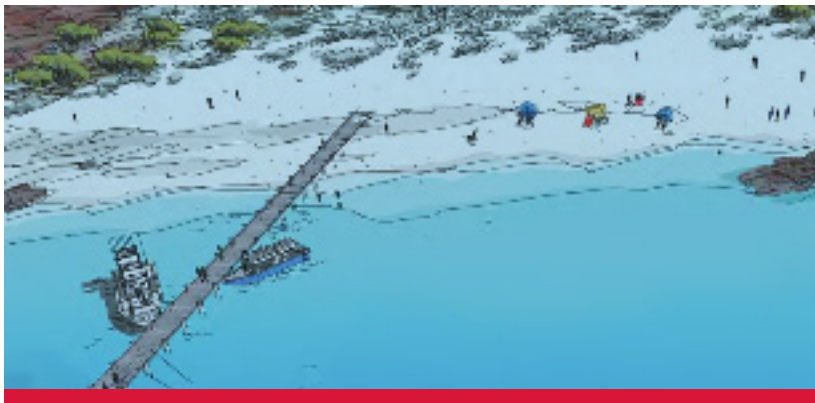
ranger team at the Murujuga National Park, which Woodside has also supported under the Burrup Conservation Agreement, to better monitor and protect this culturally significant country."

Conzinc Bay is set among the most prolific rock art on the world, but is difficult to access.

MAC believes improving accessibility and new infrastructure will unlock its potential as a landmark tourism destination. The Living Knowledge Centre is slated for the edge of Conzinc Bay.

"Woodside has operated gas processing facilities on the Burrup for more than 30 years, and our support for the World Heritage listing reflects this successful co-existence of heritage and industry," Meg said.

MAC's chief executive officer Peter Jeffries said: "We have an ambitious plan for the Living Knowledge Centre and want it to showcase the rich cultural heritage of the Burrup, putting the world's largest art gallery on the map," Peter said.



Improving access: An artist's impression of the Murujuga Living Knowledge Centre, slated to become a landmark tourism destination on the heritage-listed Burrup Peninsula.

Award winner

A Woodside-supported initiative to improve development outcomes for young Aboriginal children in the Kimberley has won a WA award.

The Woombooriny Amboon Angarriiya Partnership Initiative (WAAPI) is a place-based, community-led approach to improve the early childhood outcomes of Aboriginal children living on the Dampier Peninsula.

Rather than delivering a prescribed program, the initiative's emphasis is on bringing stakeholders together and building capacity and strong local leadership in the four Aboriginal communities of Ardyaloon, Beagle Bay, Djarindjin and Lombadina.

Key decisions are driven by the community, rather than a funder, partner or service provider.

The initiative collected the Department of Mines, Industry Regulation and

Safety's Community Partnership Resources Sector Award.

Woodside's funding for the initiative is through the Woodside Development Fund, which is focused on improving outcomes for children aged up to eight years old.

WAAPI is also supported by the Commonwealth Government through the National Indigenous Australians Agency, the WA Government through the Department of Communities, Cygnet Bay Pearl Farm and Empowered Communities.



Empowering communities: A Woodside-supported program to improve early childhood outcomes on the Dampier Peninsula has collected a WA award.



Community connection: CEO Peter Coleman joined Lucas Patchett and Nic Marchesi at the announcement of Woodside's partnership with their not-for-profit organisation, Orange Sky.

Helping hand for homeless

Nic Marchesi and Lucas Patchett, a Brisbane-based dynamic duo and co-founders of Orange Sky Australia, visited Mia Yellagonga in early September to meet with our chief executive officer Peter Coleman and officially launch the not-for-profit organisation's new partnership with Woodside.

The company announced during National Homelessness Week in August that it would commit \$450,000 over three years to support Orange Sky's Perth hybrid shower and laundry van.

It was that van (roughly the size of an ambulance) parked outside the lobby of Karla tower that surprised Woodsiders arriving to work.

Orange Sky Australia is the world's first free mobile laundry service for people experiencing homelessness – an idea founded in a Brisbane garage in late 2014 by then 20-year-olds Nic and Lucas.

They installed a couple of washing machines and dryers in the back of their old van, hooked them up to a battery and visited parks around Brisbane to wash and dry clothes for free.

What started as an idea to improve hygiene standards and restore dignity to people doing it tough evolved into a nationwide innovative outreach service.

Lucas said the partnership with Woodside is an amazing opportunity to keep doing what Orange Sky does best – providing free laundry, safe hot showers and genuine and non-judgmental conversations to friends on the street.

"One of the basic privileges a lot of us take for granted is having clean clothes to put on each day," he said.

"It may seem small, but for a person doing it tough, having access to laundry and shower services can make a huge difference in their life.

"Where we see our biggest impact is in the hours of conversations that take place between volunteers and friends while on shift, and providing the opportunity to connect."

Our CEO is executive sponsor of this partnership, and Peter said the company was proud to collaborate with Orange Sky.

"We named the Woodside-sponsored van 'Karla', the Noongar word meaning

'camp fire', because that is a place where people can gather and connect with each other," he explained.

"Orange Sky provides a place where people in Perth who are experiencing homelessness can come together, wash their clothes and connect with the community and service providers. That helps to achieve what we at Woodside also aim to do, which is to build stronger communities.

"Volunteering is part of our culture at Woodside, and Orange Sky provides another valuable opportunity for our people to get involved and give back to the community.

"We're excited to be able to facilitate this through our partnership with this innovative outreach service."

Nic and Lucas, the Young Australians of the Year in 2016, then spoke to Woodsiders in Boolah daa moort about the ways they could get involved in the partnership through team and skills-based volunteering.

And what better way to give back to the community than on a volunteering shift with Karla?

Fond farewell to friends

Vale, esteemed colleagues and friends.

Woodside farewellled several former employees in Q3 including two “Legends” from our pioneering days, George Edmond and Johnny Morgans, and former executive, Jos van Rijswijk.

George first came to Australia in 1967 to act as chief geophysicist in the Sydney office of Burmah Oil – the then operator for the original Woodside North West Shelf joint venture.

He later returned to Perth as senior geophysicist and then chief geophysicist.

In these roles, he was responsible for all the company’s seismic acquisition, processing and interpretation.

At a Legends Lunch in Perth in 2016, George reminisced about the North Rankin gas discovery, which has been developed into Australia’s largest offshore oil and gas facility.

“I remember when we were drilling and we got into the gas column and it went on and on and on,” he recounted.

“We thought we were going to get to the end of the column soon . . . but it kept on going!”

Johnny Morgans was also deeply involved in our company’s early days.

The drilling supervisor and logistics co-ordinator joined at the time of the drilling of Woodside’s first offshore well, Golden Beach 1 in the Gippsland Basin, Victoria.

Upon transfer to WA he helped set up the Broome shore-base for the first wells on the North West Shelf.

Johnny was also responsible for setting up the island refuelling stations which were required for helicopters making the trip to Ashmore Reef 1, described as the most remote offshore well drilled to that date.

Long-term Woodside employee Stan Stroud recalled: “Johnny worked on our first three drilling vessels - the Investigator at Golden Beach, then at Ashmore Reef, the SS Glomar Tasman and the Ocean Digger.”

Many years later, in his role of senior drilling engineer for the Bureau of Mineral Resources, he played a key role in ensuring Woodside and other companies were suitably prepared for the first round of drilling on the Exmouth Plateau.

Former head of Development Jos van Rijswijk is remembered by one colleague as “a big personality, kind hearted, and fun” – someone who loved a cigarette and a good pinot noir.

One former colleague recalls how his flowing grey locks gave the former mathematician an Einstein-like appearance.

Jos worked at Woodside between 1998 and 2005.

Notable achievements during his time included Echo Yodel tie-in to NWS, LNG Train 4 and Second Trunkline (final investment decision of FID plus start up), foundation work to support FID for LNG Train 5, and oil field tie-ins to the Cossack Pioneer (Lambert Hermes).

Former Pluto commercial manager Jeremy Brown remembers Jos as enormously popular.

“Jos was of extremely high intellect and had a wonderful sense of humour,” Jeremy notes.

“Many of today’s Woodside staff were supported in their development and careers by Jos’ wisdom, guidance and support including me.”

So, too, was Dave Reid, now general manager exploration and production technology.

“I found he was generous in supporting growth of Woodside employees and he gave me opportunity to move from my structural discipline area to lead an infill well opportunity, and then Concept Selection for Goodwyn Alpha low-pressure train, and then the Perseus over Goodwyn (PoG) concept select,” says Dave.

Jos retired to the Netherlands and died in July, aged 73.



Well remembered: From top left, Johnny Morgans, Jos van Rijswijk, and George Edmond, right, with his colleague the late Lachie MacLean.

Keeping the tradition safe

A day at the beach is a weekend tradition for many young families during summer, and as a major partner of Surf Life Saving Western Australia (SLSWA) Woodside is working to keep those beaches even safer with the Woodside Nippers Program.

This beach safety program for children ages 5 to 12 is delivered by WA's 31 surf life saving clubs (SLSC) throughout the summer and along the coast – from Esperance to Broome.

The new partnership will see Woodside extend its support of the iconic volunteer-based organisation to the value of \$5 million over five years.

SLSWA president Craig Smith-Gander says he is delighted with the company's decision to not only continue but increase its existing support of his

organisation and its more than 21,000 members across the state.

"Woodside has been a partner of Surf Life Saving WA for nearly a decade, during which the company has supported our lifesavers of today through the Lifesaver Safety Program and, more recently, through our network of live beach cameras," says Craig.

"The opportunity to grow this partnership across our Nippers program means Woodside will also be supporting our lifesavers of the future, which is extremely significant."

The program teaches the essentials of surf awareness and beach safety, helping families enjoy the iconic WA coastal lifestyle in a safer manner.

It runs between October and March

(May to September for Broome SLSC).

Being a Woodside Nipper is all about keeping each other safe, making new friends and having fun.

For Woodside, it is not just about promoting the brand; it's also about extending our company's strong safety culture beyond the workplace and teaching kids at a young age about the importance of safety in all aspects of life.

Woodside chief executive officer Peter Coleman says the company is proud to sponsor the Woodside Nippers in WA.

"Through our new partnership with Nippers we will be helping to train young people to become the lifesavers of the future," Peter notes.

"Volunteering is part of the culture at Woodside and we also wanted to show our support for the thousands of volunteers who give up their time to run the Nippers programs, which help keep our communities and beaches safe."

The new partnership will give significant direct support to the WA surf clubs and volunteers running the programs through the provision of program safety equipment and resources.

It will also provide every child with a new Woodside Nippers uniform, making the programs even more accessible to WA families wishing to join.

President of the Port Walcott Surf Life Saving Club Ben Unbehaun said the Woodside Nippers program was not only a great way for youngsters to have fun and stay fit but it also taught them the importance of giving back to the community.

"The aim is to teach the core principles of lifesaving to prevent coastal drownings – an essential skill in Australia," Ben points out.

"Thanks to Woodside's generous support, this program will go from strength to strength."

Woodside Nippers registrations are now open at nipperswa.com.au



Beach kids: The Woodside Nippers Program teaches the essentials of surf awareness and safety so WA families will enjoy a safer day at the beach.



Fair play: Forty-seven years old and going strong, the FeNaCING Festival is Karratha's version of Perth's Royal Show.

Festival a symbol of Karratha chemistry

Karratha residents got into the festival spirit in August as a favourite on the Pilbara city's social calendar was celebrated with gusto.

Thousands of locals and visitors flocked to the curiously named FeNaCING Festival to enjoy a weekend of fireworks, entertainment and activities that included the traditional Friday night street parade with more than 20 floats.

The name FeNaCING pays homage to the three commodities which have built the foundation for Karratha: Fe is the chemical name for iron, NaCl for salt, and NG for natural gas (although not strictly scientifically correct).

Now in its 47th year, the festival is comparable to the Royal Show of Perth and is so important that the weekend is declared a local public holiday.

Over the weekend, visitors can enjoy country fair classics from toffee apples, to tug-o-war competitions to petting zoos. Community groups also use the festival as an opportunity to raise funds.

This year's theme was "50 Years of Karratha".

The festivities are traditionally kicked off with a float parade where schools and community groups show off their DIY creativity.

The Woodside Nippers from Port Walcott Surf Life Saving Club claimed the community group award.

For Woodside, it has been an important way to engage with community members and we are proud to be a major sponsor.

"FeNaCING is a great community event that we're really pleased to support," says Corporate Affairs manager North West Kate Gauntlett.

"It's great fun and it's an opportunity for local people to learn more at our exhibition stand about Woodside and what we do."

The festival has run in the first week of August since its inception and all funds raised go back to the community through its organiser, the Lions Club.



Keeping country healthy

Strong leaders and strong relationships help make a healthy country.

That was the message behind a forum in August hosted by the Kimberley Land Council (KLC) at Home Valley Station, 140 km east of Kununurra.

The Healthy Country Forum is a bi-annual gathering of senior Indigenous land and sea managers in the Kimberley, including 16 ranger groups.

Its purpose was to discuss strategic issues and opportunities faced by the sector, and to explore opportunities for growth and partnership.

Woodside was a sponsor, and company representatives attended to hear the rangers discuss plans for emerging enterprises from land management practices including savannah burning and promoting tourism in the area.

Savannah burning, and its links

to Australia's carbon market, is generating significant economic, social, environmental and cultural benefit for Aboriginal people in the Kimberley.

Indigenous prescribed body corporates, Government and non-government organisations also sent representatives.

A highlight was a report on a visit by Kimberley rangers to Botswana where traditional fire management was demonstrated and some training provided.

Botswana Government representatives attended the forum and spoke highly of the rangers' skill and the potential for a better, more cost-effective approach to managing fire than occurs currently.

KLC deputy chief executive Tyrone Garstone said: "To have such a strong group of leaders in Indigenous land management together in one place to share and collaborate on the strategic direction of country management in the Kimberley was a powerful outcome."



Strength in numbers: A recent forum, of which Woodside was a sponsor, on land management in the Kimberley attracted a big and diverse attendance.

Out and about in Broome

Woodside held two community engagement events in Broome in Q3 to give the local community a chance to learn about the Browse to North West Shelf (NWS) development concept and what it might mean for the Kimberley.

Members of the local community, representatives from local government, the Broome Chamber of Commerce and Industry (BCCI), Broome Futures Alliance, and service providers in logistics, tourism and education attended.

Woodside hosted some local community partners at a public information session during the day, and in the evening, Corporate Affairs manager Jo Ferrie hosted an invitation-only sundowner.

Jo noted Woodside had been part of the Broome community since its discovery of gas in the Browse Basin in 1971. She emphasised that the company and its joint venture partners were committed to making the most of this development

opportunity and delivering benefits to Broome.

The team will return to Broome in Q4 to co-host a Business After Hours event with the BCCI, providing the opportunity to give a project update prior to

environmental approvals going public.

"Feedback received has been extremely positive and we look forward to working with Woodside on future events such as these," said BCCI chief executive officer Elaine Jolliffe.



Community consultations: What the Browse development concept might mean for the Kimberley was discussed at two events hosted by Woodside in Q3 in Broome.



Memorable meals: Digital services specialist Shauna Waters checks some of the menu memorabilia donated to the Knowledge Zone, while senior Contracting and Procurement adviser Lee Martin displays Woodside placemats, including one of the Sanderling carrier with our first LNG export to Japan.

Moving memorabilia

Our move from Woodside Plaza to Mia Yellagonga has unearthed many keepsakes, stirring memories and providing valuable reminders of some of the company's early days.

Many of these have found their way to the Knowledge Zone on Level 14 of Karlak at Mia Yellagonga, where digital service specialist Shauna Waters has been taking care of them.

They include a menu for a commemorative lunch at the Sheraton Perth Hotel on 4 September 1984 – the Inauguration Luncheon of the North West Shelf Project.

The menu gives a taste of what sort of fare was fashionable in the '80s at one of Perth's premier dining establishments: seafood cocktail "Miramar", coq au vin, tossed spring salad, fresh fruit slice, and coffee and mints.

Other memorabilia include a copy (Number 3 of 1990) of The Burrup Builder – "The construction newsletter for Phase III of Australia's Northwest Shelf Project" – donated by Lee Martin.

Lee, a senior Contracting and Procurement adviser, unearthed such mementoes when she was packing recently to relocate from Perth to Karratha.

Amongst those souvenirs she had forgotten she owned were two sets of cork place mats, decorated with photos of Woodside assets, including one placemat depicting the Sanderling LNG carrier departing Western Australia for Japan with our very first cargo of LNG in July 1989.

"I believe all the workers got the place mats, probably as a safety award, sometime around 1990," she reports.

Lee wasn't a Woodsider then, but her late partner, Mike Olliffe, worked in logistics on all five LNG trains at Karratha Gas Plant, and Pluto.

Mike was instrumental in the design and construction of the Pluto Quarantine Approved Premises (QAP), set up in 2010 to protect the Burrup Peninsula from the introduction of exotic pests and diseases.

He died suddenly from a heart attack in 2009, and at the QAP's opening in 2010 the premises were dedicated to his memory. In addition, Woodside erected a memorial in honour of Mike which is located at the surveyors' point overlooking Pluto.

Lee has spent most her working life in procurement positions in the mining and oil and gas industries.

"My first move to Karratha was in 2000 for the construction of Train 4 and I remember I was very excited about coming here," she recalls.

She moved back to Karratha a couple of months ago, albeit with some initial misgivings but her current partner was keen on the move and to experience a sea change.

"It's been amazing since I've come back," she enthuses.

"I have been so welcomed by everyone and the vibe is so different from living in the city."

She says Karratha has changed, since leaving there in 2009.

"I was quite excited to see a range of café and restaurants whereas they were limited before," she notes. "And it's got an impressive new arts centre and new hospital."

Her partner?

"He says he doesn't want to leave and is looking forward to living the Pilbara lifestyle," Lee reports.

This is where Woodsiders discover a little bit more about their colleagues – and what they’ve been getting up to outside work hours. Think of it as Trunkline’s version of the water cooler.

Because whether it’s satisfying a passion for a sport, an unusual hobby or doing good deeds in the community, Woodside’s employees and contractors tend to live life to the full. As a result, they often have interesting stories or experiences to recount.

If that sounds like you or a colleague and you think it should be shared with the Woodside community, give us a call or drop us a line.

Derek’s **sweet success**

Investor Relations analyst by day, chef by night – Derek Lau is now known for his time making the top eight on the eleventh season of MasterChef Australia.

Derek, pictured (courtesy of MasterChef Australia) started his cooking journey at a young age, baking with his mother, and his passion grew.

“When I started university and had to start fending for myself, that’s when I saw progression in my cooking,” he says.

The fan favourite says his time on MasterChef was challenging, but Derek attributes some of the leadership and teamwork skills to his roles at Woodside.

“You have to put a lot of trust in your team members during group challenges,” he says.

“In my role at Woodside, I’m used to working in team environments and I was able to take on a leadership role through one of the challenges as the team captain.

“I was also put through a lot of stressful situations during my five months away and that’s really helped me translate that into how I deal with pressure at work.”

Derek’s time on MasterChef came to an end during a time auction challenge where he was required to cook with quail eggs. When asked about his least favourite dish, Derek confirmed his dislike of quail eggs continues.

Derek can now be found back in Mia Yellagonga, baking cakes for colleagues’ birthdays. You can also catch him

at pop-up restaurants, cooking demonstrations and collaboration events after hours.



Pageant with a **purpose**

Woodside’s Jenayah Elliott has placed First Runner Up in the 2019 Miss World Australia pageant, held on Queensland’s Gold Coast in July.

Jenayah, a global mobility analyst in People and Global Capability (P&GC), began her Miss World Australia journey in 2018 and placed in the top 10, further igniting her pageant passion and purpose.

“Representing my community, the Indigenous people of Australia, is my number one driver,” she says.

Jenayah grew up in Halls Creek in the Kimberley, and wants to be a positive role model for all Indigenous children.

“I’ve met the most inspiring role models during my Miss World experience and I want to be the same inspiring role model for all who need an opportunity in their life,” she says.

As a mandatory component of the pageant, Jenayah helped raise money for the Variety Children’s Charity. She stands by the pageant’s ethos, “Beauty with a Purpose”, and has continued her community focus post pageant.

“I want to give back to the community, not just because I enjoy helping others, but it also gives me a greater purpose,” she adds.

She says she was overwhelmed with the support from her function and the wider Woodside community, and attributes her pageant interview success to the communications skills gained working in P&GC.

Jenayah looks forward to starting our Graduate Program next year and says her journey will continue as she vies for the crown of Miss World Australia in 2020.

Travelling **curlers**

Sliding 20kg of granite across a sheet of ice doesn't sound like much of a sport, but three Woodsiders have adopted the pastime with gusto.

So much so that Anthony McMullen, manager environment, Luke Smith, chief environmental scientist and Jarrod Pittson, general manager environment, won a WA league divisional title and travelled to New Zealand in August for the Australian National Championships.

Curling, which requires competitors to brush the ice with a curling broom, is popular across North America, Europe and Asia.

"When we first watched curling, we thought, surely this can't be a real sport," says Luke.

"I loved the subtly mysterious way the

stone curls in the direction you spin it and defies the normal behaviours of physics," says Anthony.

Only a minor sport in WA, the only place the "curlers" can practice is a skating rink in the southern Perth suburb of Cockburn.

In fact, there is only one dedicated rink in the whole of the Southern Hemisphere – in Naseby, New Zealand, which is where the Australian National Championships were held in August.

"It was exciting to don the West Australian shirts adorned with the black swan, combined with our green and gold pants – we even won a team award for best dressed," says Jarrod.

As well as being sartorially elegant on ice, the team managed to place sixth among other highly experienced teams.

Considering the Woodsiders only train once a week, they are proud to have met their goals for their first foray into national competition.



Just add **water**

It's usually played on grass, sometimes on ice but there's a few devotees who swear it's best enjoyed two metres under water.

Who knew hockey was that versatile?

Underwater hockey has its origins in

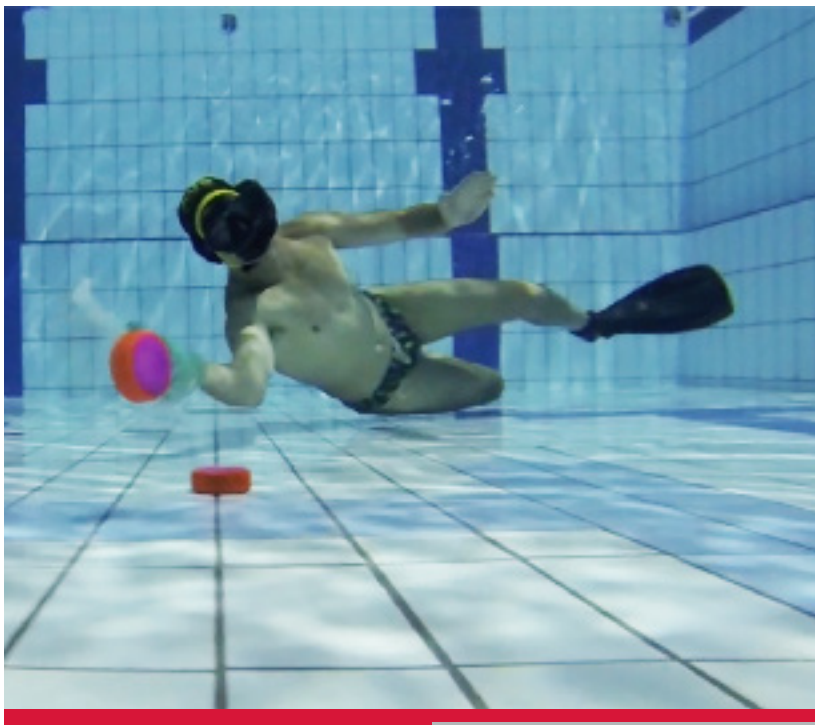
England in 1954 when it was invented at an ocean diving club.

The principles are the same as for other forms of hockey: two teams battling with hockey sticks to push a puck into a goal. Key difference is the playing field is between two and three metres under

water. Oh, and players wear snorkels and fins.

Maintenance technician (inlec) Shane Blackham has become a convert.

"It's a minor sport but it's now played worldwide," Shane says.



There are national teams, world championships every two years and the sport has just been introduced into the South East Asian games.

Shane didn't start playing till he was almost 40 but he's made the Australian Masters team, and he's helped start underwater hockey in Karratha.

He's also president of an underwater hockey club in Bunbury (which proudly boasts one of only two fully marked out underwater hockey pitches in Australia).

"The City of Bunbury was renovating the pool and I persuaded them to put in the necessary glass tiles – it's world class," he says proudly.

Shane says he's made friends all over the world through underwater hockey and one of his children, Samantha, has also been bitten by the bug.

"She represented Australia before I did," he says.

Tipping triumph

Woodside's AFL tipping competition is over for another season.

This year there were 371 entrants and the winner Chris Dalton, pictured here with his son Maverick, finished two games clear of the pack on 138 and took home the \$1000 first prize.

Chris was invited to participate by a friend who works at Woodside. He'd never entered our comp before, and adopted a scientific approach to his tipping.

"I watch four to six matches a weekend, so my philosophy this year was going through the player matchups once teams were announced and using my player knowledge to make the best decision based on the ins and outs," he explains.

"I got lucky on more than one occasion – but that's all part of tipping."

Runner-up was Leroy – also known as Leanne, wife of operations readiness lead Paul Stevens.

Leanne, a lifelong Geelong supporter, has won at least three footy tipping competitions and has participated in the footy comp since Paul joined Woodside in 2015.

"I'm usually in the tipping as well but I missed this season as I was on international assignment in Houston," says Paul, part of the Senegal team.

Competition organiser, reporting analyst Chris Gorman, reports: "We usually have around 350-450 tippers each year, and each pays \$20 at the start of the season, which makes up the prize pool.

"Interestingly, last year's winning total of 151 would have won this year's comp by 13 clear points."



Fun runs

Woodsiders are enthusiastically joining a health phenomenon sweeping the world called parkrun.

Created in England in 2004, parkrun comprises organised 5 km timed events held on Saturday mornings in parks around the globe – for runners, walkers, spectators and volunteers.

At last count, parkrun events were

being held in 1500 locations in 23 countries (including more than 360 in Australia).

"Parkrun thrives on the spirit of the community," says P&C manager Jo Middleton, who's completed 50 parkrun events. "Every run is welcoming and creates a sense of belonging."

Sponsorship makes the events freely

available (there are junior parkrun events, too).

Jo says it's a great way to spend time with her son, Harry.

Manager environment Holly Thomas is another participant.

"I love parkrun because you can walk, run, pram, dog and take 15 or 60 minutes if you want – and everyone is welcome," Holly enthuses.

"There are so many positive mental and physical health stories about the benefits of parkrun.

"I've run in London and Singapore and the encouraging, welcoming feeling is the same. I have been known to add an extra day to a holiday to fit in a parkrun."

Senior climate change adviser Alex Hyndman completed his 100th parkrun event last year.

"One of the beauties of parkrun is that it's such a strong community-led institution," Alex says.

"The global reach and impact of parkrun is even more impressive when considering that nearly all of the effort to keep it going is from volunteers. They're so committed that there's actually extra runs organised on public holidays like Christmas and New Year's Day."



Dubbed “the greatest outdoor show on Earth,” the annual 10-day Calgary Stampede in Canada attracts more than one million visitors who enjoy non-stop music and lively entertainment as well as one of the world’s largest rodeos. Calgary has a proud western agricultural heritage, which the stampede has celebrated since 1886. Today, it’s a rodeo-

festival which also pays tribute to the First Nations people of the land. Calgary has also become the nation’s headquarters for the oil and gas industry and is home to a small team of Woodsiders, including Sarah Loh, business adviser vice president Canada and USA, who snapped this photo at this year’s stampede.



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