

VIRTUSHERITAGE



NEWSLETTER ISSUE 5

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Editorial

As part of this edition's newsletter, we share our experiences over the course of this year, where we have experienced tremendous growth and challenges with some exciting collaborations on projects. We have welcomed a new permanent full time Senior Archaeologist, Alison Lamond, based in Newcastle and locally based, accountant, Melinda Watson who is undertaking payroll, book keeping and assisting with human resources.

Our focus in this edition is coastal archaeology, the study of human activity in coastal environments. We have taken part in several coastal archaeological projects with Aboriginal midden, occupation sites and potential for human remains in the Northern Rivers, Great Lakes and Newcastle areas of NSW, including excavations. A major coastal archaeological project of eight years - the fourth stage of the Mapoon graves and cemeteries project in western Cape York, Queensland for the Western Cape Communities Trust, has now come to a close. The results of the Mapoon project were the subject of international and national media exposure (see Noticeboard page for links) and the project has involved many partners and community collaborators. We have been proud to be part of this important community project.

Historical archaeological excavations and investigations have also been a part of our core business and several projects, including investigations of a nineteenth century rubbish pit in the Upper Hunter Valley and archival recording of a State significant, Ottery arsenic mine, are discussed. New services adding value to our projects, including drone surveying, are also outlined in this edition.

Our Reconciliation Action Plan (RAP) journey has also lead to further collaborations with Mapoon families on a research publication in Archaeological Prospection, cultural exchanges with the Awabakal, Bundjalung and Tjungundji Traditional Owners and involvement in a symposium with Chilean and Australian Traditional Owners with the University of Queensland. These collaborations and exchanges have included pro bono commitments and funding from our company to assist Aboriginal people with building networks, knowledge and capacity to care for country and assist our team with better understanding the



current challenges faced by Aboriginal communities. We were also pleased to be able to support school children in Mapoon with the provision of art supplies at their school.

In partnership with Cultural Heritage Connections, we also broke ground in July for a period of major Aboriginal archaeological excavations in south west Sydney for a large residential development which we will be working on through to late September with a team of ten archaeologists and more than 35 Aboriginal representatives.

Thanks to all our clients, community and research partners for your support and service.

Acknowledgement

We acknowledge the Traditional Owners of the lands we work within, the Bundjalung people (northern NSW), Wonnarua (Hunter Valley), Awabakal (Newcastle and Lake Macquarie), Biripi and Worimi (Taree/Manning Valley/Great Lakes) and many other Traditional Owner groups throughout New South Wales and Queensland. We pay respect to Aboriginal Elders past, present and future and acknowledge the privilege to work on country with Elders and families



Projects



Aboriginal Cultural Heritage Assessment and Excavation of Aboriginal Midden, Proposed Residential Development, Tweed Coast Road, Hastings Point, NSW.

Paul Wolfe Construction

Virtus Heritage, on behalf of Paul Wolfe Construction, prepared an Aboriginal Cultural Heritage Assessment and Aboriginal Heritage Impact Permit application for a residential block at Hastings Point, northern NSW. The project area is within a registered Aboriginal midden site. The boundaries of the midden extend to the north and to the south of the project area on both sides of Tweed Coast Road. The construction of Tweed Coast Road (which bisects the midden) and several phases of house construction/demolition, have substantially impacted the midden deposits but not entirely destroyed the visible evidence in the landscape.

The project area is part of a broader cultural landscape of the Tweed region, which is steeped in cultural significance. The area is also in proximity to rich cultural sites including bora grounds/ceremonial grounds at Hastings Point headland, fish traps in the nearby Cudgen Creek, burials, cultural places, story places, middens, artefact scatters, isolated finds, scarred and carved trees. The general location of the project area is a favourable place for a midden as Aboriginal people could have drawn on the food resources from the open beach, the tidal estuary of Cudgera Creek, and the rock platform around the headland.

Geomorphologist Dr Peter Mitchell inspected the project area and located evidence of the midden site and also identified two areas of near natural surface on the eastern boundary and north-eastern corner of the block which remain sufficiently intact that they may contain

some remnants of intact midden deposit. Inspection by Virtus Heritage and Registered Aboriginal Party representatives confirmed these findings. Due to the significant find of an Aboriginal child's tooth approximately 100 metres east of the project area opposite Tweed Coast Road, there is also some potential for Aboriginal human remains within any remaining midden deposit.

In July, our team with a bioanthropologist excavated the midden with members of the Tweed Byron Local Aboriginal Land Council, the McDonald family and Tweed Aboriginal Advisory Committee. Two stone artefacts (mudstone and silcrete flakes) and fragments of burnt coral and shell species, typical of middens, were uncovered through investigation of eleven pits - information which tells us more about prehistory and Hastings Point. Post excavation analysis will be undertaken in partnership with community to create community and technical reports.



Cabarita Beach from Hastings Point



Midden material along Fullers Creek

Wye Backlog Sewer Scheme Concept Design, Wye, NSW

GHD and Hunter Water Corporation

At the end of 2017 Virtus Heritage was engaged by GHD Pty Ltd on behalf of the Hunter Water Corporation (HWC) to prepare an Aboriginal archaeological due diligence assessment for the Wye Backlog Sewer Scheme Concept Design and Review of Environmental Factors.

Most of the due diligence assessment focussed on an area west of Lake Macquarie with two additional areas north of Wye also forming part of the project area. The due diligence assessment precedes proposed works by HWC involving approximately 12 kilometres of reticulated sewer in Wye, 10km of transfer main in the Wye and Morisset regions, and three new wastewater pump stations.

The project area is part of a broader cultural landscape of Lake Macquarie, which is steeped in cultural significance. Predominant site types of the broad Lake Macquarie region include coastal and estuarine shell middens, followed secondly by open campsites with surface scatters of artefacts and then lower percentages of other sites. Aboriginal sites had also been recorded along Mannering Creek, which passes through the project area, with multiple artefacts located less than 50 metres from Mannering Creek and eroding from the banks of the Creek. A midden site had also been previously identified on Fullers Creek – 50 metres from the project area.

Working with registered Aboriginal parties, including the Bahtahbah Local Aboriginal Land Council, Biraban Local Aboriginal Land Council and Awabakal Descendants Traditional Owner Aboriginal Corporation, the due diligence assessment identified two areas of PAD, both located on the northern banks of Mannering Creek and predicted to have been intensively or repeatedly utilised by Aboriginal people in the past. A potential scarred tree was also located at the intersection of Wye Road and Ruttleys Road and a midden deposit found on the north bank of Fullers Creek, adjacent to the project area. The previously recorded midden site was also determined to potentially extend into the project area. Recently, scarred trees were also identified near the Wye Community Hall recreation area, just outside the project area.

A testing methodology for the PADs will be determined as part of an Aboriginal Cultural Heritage Assessment process, in consultation with registered Aboriginal parties, including the Bahtahbah Local Aboriginal Land Council, Biraban Local Aboriginal Land Council and Awabakal Traditional Owner Organisations. The current design does not require works near the midden. If this were to change during future design stages, a methodology for investigation of the extend of the midden will also be conducted.



Excavation at St Aubins Arms

Historical Excavations of St Aubins Arms, Scone, NSW

GHD and Road and Maritime Services NSW

Virtus Heritage was engaged by GHD on behalf of Roads and Maritime Services (RMS) NSW to conduct archaeological excavations and investigations on land associated with the St Aubin's Arms in Scone and a number of other heritage items in Scone as part of the Scone Bypass project.

Built in 1837, the St Aubin's Arms is the oldest surviving building in Scone and has also been known as The Bird in Hand, St Aubins Inn, The White Swan and The Woolpack Inn. The St Aubin's Arms was the site of a famous historic incident that occurred in 1840, when a bushranger raid by the 'Jew Boy Gang', resulted in the murder of John Graham. A Section 140 permit was obtained from the Heritage Division to conduct excavations on the far western edge of the property. This included a dam that was likely present during the early operation of the Inn.

These excavations revealed a dump that contained a significant number of mid-late 19th and early 20th Century remains including bottles, ceramics, metal, bone, buttons, leather and clay pipes. The bottle dump was located on the southern edge of the dam and was excavated to a depth of approximately 4 metres. The remains reflected the use of the dump by the Inn, as a commercial dining and drinking establishment with many hundreds of case gin and beer bottles, drinking glasses and

soda bottles, dinner ware and stone ware used to store pickles and vegetables. Thousands of highly fragmented pieces of glass and ceramic were present within the site. Diagnostic pieces of material, numbering over 2,700, including whole bottles, bottle lips, bases, painted ceramic and small finds such as buttons and clay pipes will be analysed in the future to interpret the history of the site.



Materials retrieved from the excavation



Ottery Mine arsenic refinery

Aboriginal Cultural Heritage Assessment, The Ottery and Tent Hill Mining Sites, Near Emmaville, New England Tablelands, Northern NSW

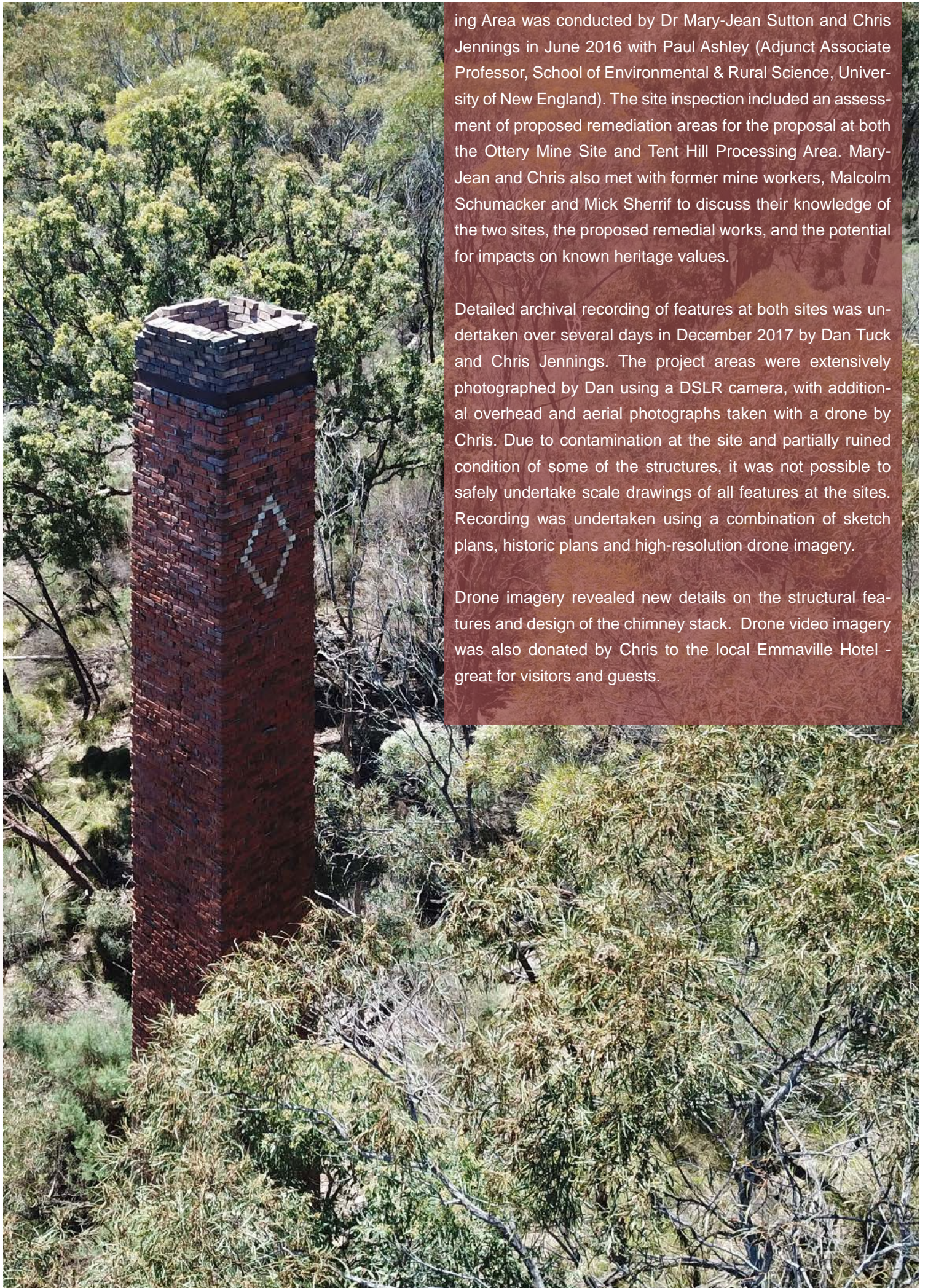
GHD/NSW Department of Planning and Environment

Virtus Heritage was engaged by GHD Pty Limited (GHD) on behalf of NSW Department of Planning and Environment to prepare a Historical Heritage Assessment (HHA), including a Statement of Heritage Impact (SoHI), for proposed remediation works at the Ottery Arsenic and Tin Mine and the related Glen Smelting Site at Tent Hill.

After the discovery of tin deposits in 1875 by Alexander Ottery, the Ottery Mine was established and worked continuously for tin from 1882 to 1905 by the Glen Smelting Company. This operation was among the first examples of underground base metal deposit mining in the Emmaville district. The Tent Hill Processing area was later established to process tin from the Ottery Mine and for the disposal of processed tailings. In 1920, the Ottery mine was acquired by the Sydney-based firm of William Cooper and Nephews (Australia) Pty Ltd., who shifted focus of the Ottery operation from tin to arsenic, which was found in association with the tin lode. Arsenic was mined at the site and refined to produce sheep and cattle dips (and other pesticides). A complex, on-site ore processing and treatment plant was constructed, using over 450 000 bricks, mostly made locally at Tent Hill. The Ottery Mine has State significance as the oldest principal ore refinery in Australia, and the only remaining arsenic refinery plant New South Wales.



Rockshelter identified during cultural heritage study



ing Area was conducted by Dr Mary-Jean Sutton and Chris Jennings in June 2016 with Paul Ashley (Adjunct Associate Professor, School of Environmental & Rural Science, University of New England). The site inspection included an assessment of proposed remediation areas for the proposal at both the Ottery Mine Site and Tent Hill Processing Area. Mary-Jean and Chris also met with former mine workers, Malcolm Schumacker and Mick Sherrif to discuss their knowledge of the two sites, the proposed remedial works, and the potential for impacts on known heritage values.

Detailed archival recording of features at both sites was undertaken over several days in December 2017 by Dan Tuck and Chris Jennings. The project areas were extensively photographed by Dan using a DSLR camera, with additional overhead and aerial photographs taken with a drone by Chris. Due to contamination at the site and partially ruined condition of some of the structures, it was not possible to safely undertake scale drawings of all features at the sites. Recording was undertaken using a combination of sketch plans, historic plans and high-resolution drone imagery.

Drone imagery revealed new details on the structural features and design of the chimney stack. Drone video imagery was also donated by Chris to the local Emmaville Hotel - great for visitors and guests.

Ottery Mine arsenic refinery chimney

Coastal Archaeology

Coastal archaeology within Australia is a vibrant and dynamic field. These unique environments and associated resources were utilised by Aboriginal people over many thousands of years and this is reflected by the abundance of Aboriginal sites still present in these landscapes today. Site types include shell middens, burials, ceremonial sites, dreaming sites and campsites, all often associated with large numbers of stone artefacts. Virtus Heritage has extensive experience working within coastal environments, with a strong emphasis on the mid-north coast of New South Wales. This year alone our specialist team has directed assessments at Hastings Point, Lennox Head, Newcastle, Lake Macquarie and Evans Head, some of which are on going, and will involve test/salvage excavation and recoding of known Aboriginal sites, with detailed post excavation analysis and reporting.

Each assessment adds to our cumulative knowledge of coastal environments, how these landscapes were utilised by Aboriginal people in pre-European times and as such, enables us to generate accurate predictive models of what site types are likely to be present in specific areas. Our team works closely with local Aboriginal communities and uses the specialised knowledge of geomorphologists, artefact analysts and bio-anthropologists to contribute to our understanding of the scientific and cultural significance of coastal sites. This knowledge and experience allows Virtus Heritage to provide informed advice to clients with regards to managing cultural heritage matters and contributes to the overall picture of Australian coastal archaeology.

Our team is diligent in the on-going identification, recording and preservation of these sites, recognising the significance these sites and landscapes hold to Aboriginal people as a long and continued connection to country.

Services





DJI Mavic Pro in flight. Photograph courtesy of Dan Tuck

Drone Photography

Virtus Heritage is now using a DJI Mavic Pro drone (Remotely Piloted Aircraft) to obtain high-resolution photographs and video to assist in the recording of archaeological sites and heritage features. The Mavic Pro is a light drone which falls under the Civil Aviation Safety Authority excluded category, allowing it to be flown within CASA's standard operating conditions without a permit. Virtus Heritage has had success using drones to help map and record features on contaminated sites without exposing the recorder to safety risks (see Projects: Ottery Mine and Tent Hill).

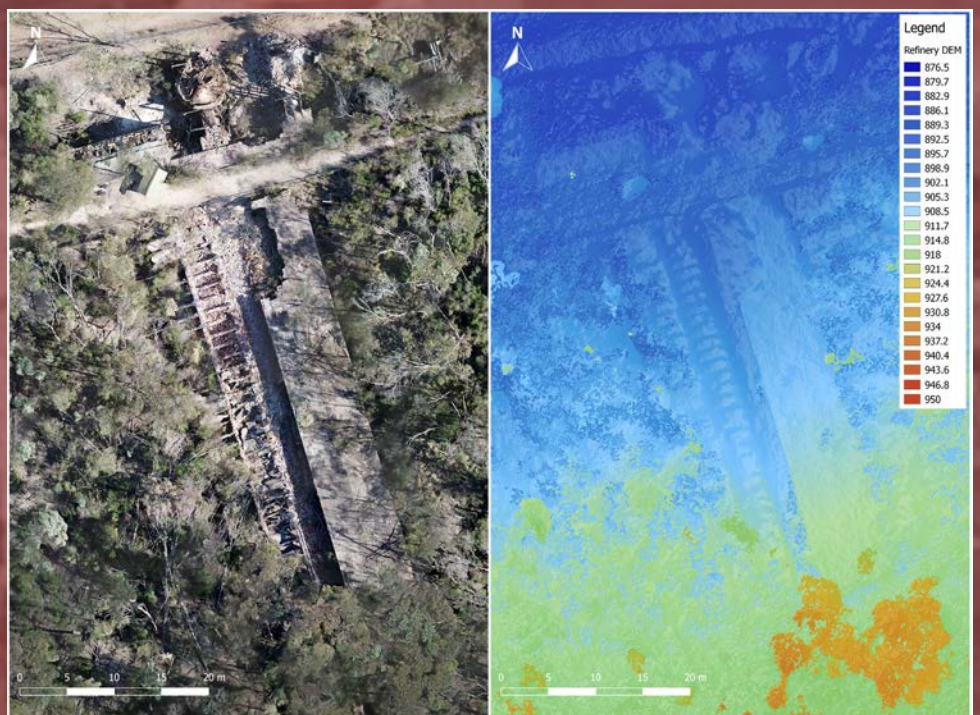
Aerial Photography

Most heritage projects require aerial photographs, to show site features and locations. Often satellite photography can be out of date, or of poor resolution when zoomed into smaller project areas. Aerial photographs obtained by drones provide high resolution, up-to-date overviews of archaeological sites. Drones can be programmed to automatically fly set grid over site areas taking a series of photographs. These can then be compiled using photogrammetry software to create an orthorectified composite image, which can then be geo-referenced for use in GIS. The same process used to produce aerial photographs can be used to create a coloured digital ele-

vation model, to aid in the identification of features that may not be obvious in photographs or even when inspected at ground level. Additionally, 3D models can be made of areas to identify topographic features. This is particularly useful for mapping excavation test pits as they occur or for identifying local geomorphology.

Spot-Photography and Video

At the most basic level, the drone can be used to obtain photographs and videos from inaccessible positions. This can be utilised for reconnaissance or to record features more thoroughly. Additionally, high-resolution video can be used to give a comprehensive view of certain features, or an aerial overview of sites and locations.



Drone aerial photograph (Left) and DEM (Right) of historic arsenic refinery at the Ottery Mine, NSW

Noticeboard



Team Announcements

Alison Lamond joined Virtus Heritage in April 2018 as a Senior Archaeologist and Ground Penetrating Radar (GPR) Assistant and brings more than six years experience, having worked as a consultant throughout Newcastle and the Hunter Valley in NSW. Alison has a Bachelor of Arts in Archaeology with Honours and a Bachelor of Science in Geology and Geophysics from the University of Sydney. Alison has undertaken a wide range of Aboriginal cultural heritage and historical archaeological projects and has established an excellent professional reputation with the Office of Environment and Heritage and the Awabakal and Wonnarua communities. Alison will be assisting our Senior Archaeologist Dr Emma St Pierre with our GPR program and be heavily involved in our work within the Newcastle and Hunter regions.

Melinda Watson

To help manage the growing number of projects and increasing workload, Melinda Watson of Books in Order has been appointed as a full-time accountant and HR coordinator.

*Melinda Watson B.Fin. Admin APIA
Partner*

W: www.booksinorder.net.au

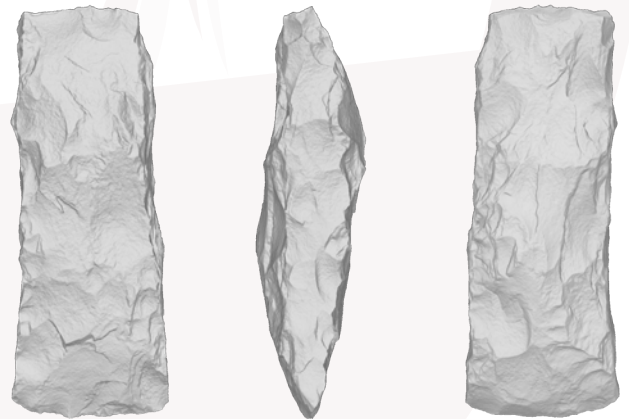
Fay Perry

We are delighted to welcome further administrative support with Fay Perry joining Virtus Heritage in April 2018. Fay has been involved with the social justice sector for more than two decades, having formal qualifications in nursing and working extensively in the provision of specialised care to veterans and private citizens throughout New South Wales. Fay will assist with the organisation of many of the major projects on the schedule for the second half of 2018, working closely with our Consultation Co-ordinator and Administrative Assistant, Rachael Mackay.

Publications

Our team, joined by some of our partners, has recently been published in a number of academic journals. Our research article with Professor Lawrence Conyers on the technical GPR and magnetometry results from our work on burial mounds in Mapoon, Queensland is currently in press with the journal *Archaeological Prospection*. This paper will be followed up by another paper on the burial mounds, which has recently been accepted by *Archaeology in Oceania* and a third paper which we were invited to submit for the Australian Archaeological journal.

Conyers, L., St Pierre, E., Sutton M-J., and C. Walker. 2018. Integration of GPR and magnetics to study the interior features and history of earth mounds, Mapoon, Queensland, Australia. *Archaeological Prospection*, doi:10.1002/arp.1710



3D Model of experimental adze preform, part of PhD research by Chris Jennings

Chris Jennings has also had a research article published in *Archaeology in Oceania*. The paper was written as part of his PhD research and focused on Colyers Island, a significant quarry and adze manufacturing complex exploited during the early pre-European settlement of New Zealand.

Jennings, C., Weisler, M.I and R. Walter. 2018. Colyers Island: Polynesia's southernmost adze manufacturing complex. *Archaeology in Oceania*, <https://doi.org/10.1002/arco.5151>



Aunty Diane Nicholls presents as part of the Mapoon Graves and Cemeteries Project

UQ symposium on extraction, development and Indigenous community sustainability

In May, Mary-Jean Sutton, Emma St Pierre and Aunty Diane Nicholls from Mapoon had the opportunity to participate in a symposium hosted by the University of Queensland on 'Extraction, development and Indigenous community sustainability'. This symposium was a cross-cultural exchange and saw the gathering of Chilean Traditional Owners, Australian Traditional Owners from Stradbroke Island, Charters Towers, Cape York and the Torres Strait, and researchers from Australia, Chile and the US. The symposium focussed on native title, sustainability and cultural heritage. In this context, Mary-Jean and Aunty Diane presented on Stage 4 of the Mapoon Graves and Cemeteries Project, focusing on the consultation process and cultural heritage management plan and strategy in collaboration with Simon Pearce from GHD. The presentation was very well received and generated a lot of interest from both sides of the Pacific.



GPR field work at Mapoon

EIANZ Webinar

Also in May, Dr Emma St Pierre presented on the results of our GPR work on burial mounds in Mapoon, Cape York Queensland as part of the Environmental Institute of Australia and New Zealand's Webinar series. Our team's research has recently had international media attention in Russia, India, Brazil, UK, USA and other parts of the world (<http://www.abc.net.au/news/2018-02-08/discovery-of-ancient-aboriginal-remains-confirms-burial-grounds/9404322>) and the presentation was very popularly received, garnering many questions from the online audience, particularly with regards to the other applications of GPR. Please refer to our GPR services brochure to view our full range of GPR services and capabilities.



In House Training

Last November, Virtus Heritage senior staff met over two days the Pottsville Neighbourhood Centre to discuss and workshop company policies and goals, refresh our knowledge of international best practice and revise current heritage legislation and its application.

Future training sessions have been organised for training in geomorphology, Ground Penetrating Radar and GIS in November 2018, working with Dr Peter Mitchell and Professor Judith Birmingham.

Reconciliation Action Plan

Virtus Heritage is excited to be finalising its September 2018 - September 2020 Innovate RAP, having outperformed its commitments to reconciliation in its inaugural Reflect RAP for the 2017-2018 period.

We would like to acknowledge and thank Leweena Williams, CEO, Tweed Byron Local Aboriginal Land Council (LALC) and Robert Appo, Tweed Council's Community Development Officer, Aboriginal Community and Cultural Services for their contribution to our RAP Working Group throughout the year and their guidance and advice on our RAP commitments and their implementation.

We were privileged to have been able to work closely with the Tweed Byron LALC throughout the 2017-2018 period on a range of projects, including Virtus Principal Dr Mary-Jean Sutton and Senior Archaeologist Chris Jennings and LALC officers spending a day together in February 2018 to exchange knowledge and discuss ways to work better together on common issues and challenges in protecting sites and managing cultural heritage. The day also involved due diligence training covering codes of practice and legislation, heritage and sensitive landforms, artefact recognition.

As part of our current RAP commitments, we were also able to sponsor the involvement of Aunty Diane Nicholls, Elder, Tjungundji Aboriginal Corporation in a Public Symposium hosted by the University of Queensland's School of Social Sciences in May 2018. The Symposium brought together academics and traditional owners from across Australia (Stradbroke Island, Charters Towers and Torres Strait) and Chile to discuss legislation recognising Indigenous people's rights to consultation and the tensions and opportunities that exist through development impacts such as mining and forestry projects on native title, sustainability and cultural heritage.

Together with Dr Emma St Pierre, Aunty Diane and Dr Mary-Jean Sutton made a presentation to the Symposium on Virtus Heritage's Mapoon Stage 4 Graves Project focusing on the consultation process and cultural heritage management plan and strategy and the challenges of living in a landscape with so many graves.

The Chilean academics presented similar challenges to those experienced in Australia and shared knowledge and experience on how they were teaching and engaging younger generations about their culture and who they are. When questioned about the fear of losing this culture in the context of the current challenges in Australia, Chilean Traditional Owner Judith Cruz responded:

"it is not lost, the seeds are still deep inside of you all, never stop trying and believing, for in time you will find them, and they will flourish... "

Aunty Diane summed up her experience with the cultural exchange as *"It was a wonderful experience, especially to be able to establish networks with other Traditional Owners towards helping us manage country in the years ahead"*.

Together with staff of the Awabakal Local Aboriginal Land Council and the Awabakal Descendants Traditional Owners Aboriginal Corporation, Dr Mary Jean Sutton and Senior Archaeologist Alison Lamond undertook information sharing session at the Awabakal Local Aboriginal Land Council offices to discuss cultural heritage legislation and assessment processes in NSW. The discussions included the Office of Environment and Heritage due diligence code and consultation guidelines and the challenges of their practical application. Potential strategies and ideal outcomes for Aboriginal organisations were discussed.

NAIDOC Week was another highlight on our calendar with Virtus Heritage staff joining activities co-ordinated by the Tweed Byron Local Aboriginal Land Council.

