

# 'Geo-Log' 2006

Journal of the Amateur Geological Society of the Hunter Valley

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### President's Introduction.

Hello Members and Friends,

While other commitments restricted the number of outings that I was able to attend during 2006, I was most impressed with the mineral collection at the Australian Museum in Sydney and the Mulbring Fossil Quarry. I was also enjoyed the trip back in history at Tanilba House and the Carrington Walk.

The Tasmanian Safari proved so successful that as I write this introduction some of our members are on a return trip to the "Apple Isle".

The extended weekends at Yerranderie and Mt. Wilson were a great success.

Once again the Social Committee efforts culminated the year with a spectacular Christmas **Party at Vic and Leonie's home.** 

I would like to thank all the people whose efforts made 2006 a great year for our society. I **won't name them individually, but we all know that the executive, planning committee, social** committee, leaders and members contribute to making our society what it is today.

In saying this I would like to thank the contributors to Geo-Log and especially Ron for the preparation of a truly entertaining journal of our activities.

What is happening in 2007? The Planning Committee will decide after the Annual General Meeting, but if the past activities are an indication we are in for a great year full of varied activities.

Regards,

lan.

### Green Point Ramble Saturday 14<sup>th</sup> January 2006

Leaders: Michael and Jenny Green.

### Attendance: 27.

Members and visitors met in Bennett Park Valentine at 9:15 am. Leaders Jenny and Michael called the group together and gave a brief talk on the history of Green Point Foreshore Reserve, and answered questions.

The group set off, following the well constructed walking trail along the foreshore of Lake Macquarie. The aim was to walk to Belmont and visit the 16 Foot Sailing Club for morning tea, before returning to Bennett park for lunch. As the group followed the foreshore track, a rocky outcrop of Teralba Conglomerate slowed the walkers as they had to carefully clamber over it.

Once past, the track took us into a rainforest gully where a boardwalk had been constructed, preventing damage to the vegetation. The track then passed Green Point taking the walkers through a Casurina Forest to Cardiff Point where Sea Eagle Park and Lookout were situated. Toilets and picnic tables are provided at the park.

As morning tea was calling, the group were soon on their way, passing Black Jack Point before reaching the Reserve Entrance next to the Ross Street Carpark. After a short walk to the 16 Footer's, a well deserved morning tea was welcome. Thus refreshed, most elected for the return walk.

An interesting feature of the walk is the provided signage which provides information on topics such as geology, native vegetation and wildlife, threatened species, early industries (e.g. fishing, timber-cutting, coal-mining) as well as the community campaign to acquire the land as a Public Reserve.

### Report by Ron Evans.



Jenny Green giving an introductory talk before the walk.



Participants making their way past an outcrop of Teralba Conglomerate.



Admiring the view from Sea Eagle Lookout situated about half way along the walk.



South West view of Lake Macquarie next to the jetty on the Belmont end of the walk.

### Carrington Walk Saturday 18<sup>th</sup> February 2006

Leader: John Cater.

Attendance: 16.

We all met at the Fishermen's Coop at 10:00 am and commenced the walk about 10:30 am.

It was a very warm day but very pleasant nevertheless. I had compiled a short history of the suburb and each person received a copy.

The walk itself was very pleasant and very easy, the Council having done a very good job of it.

Halfway along there is a boardwalk through some mangroves, adding to the pleasure of the walk.

We arrived back at the Coop and had an enjoyable lunch of fresh fish and very good chips.

After lunch, some members went home. I took those remaining to Fort Scratchley for a look at the view. (The Fort is currently closed for refurbishment, but I am the only one with Keys.)

A nice laid back activity.

Report by John Cater.



Lookout above Mangroves, part of the Carrington walk.

### Mount Warrawolong Trip Saturday 18<sup>th</sup> March 2006

Leader: Ron Evans.

Attendance: 14.

Mt. Warrawolong consists of a plug-like igneous body composed of dolerite and theralites.

Dolerite is a medium grained igneous hypabyssal rock that forms in near surface intrusions such as dykes and sills. It is composed of plagioclase feldspar (60 +%), augite and olivine (some 40%).

Theralite is a coarse grained igneous intrusive rock also composed of plagioclase feldspar, augite and nepheline with or without sodalite, olivine, a little biotite and sometimes hornblende.

The dolerites on Mt. Warrawalong are fine and fairly evenly grained with a sub-ophitic to intergranular texture and consist mainly of zoned plagioclase, augite and olivine.

The theralites (a rather rare group of rocks occurring in complex hypabyssal associations) make up a small fraction of the exposed mass and are found in veins, lenses and irregular sheets within the dolerite. They range in thickness from less than 2.5 cm to more that 1.0 m. They are easily recognised because of their coarseness, especially the dark minerals, and the unusual intergrowths of plagioclase and pyroxene (titanaugite).

The very coarse theralites are found in the west to north gentle slope and down the steep slope to the north.

Our party met at The Pines Picnic Area in the Watagan Mountains. After a walk and morning tea, we car-pooled into four-wheel-drive vehicles for the trip to the top of Mount Warrawolong. A recently constructed road to the top





Mount Warrawolong as seen from Walkers Ridge Forest Road.

Locality Map of Mount Warrawolong in the Watagan Mountains west of Lake Macquarie

Brian England collecting samples of theralite.

meant that a rather strenuous walk was avoided. When we reached the top, pieces of rock scattered around the trig were examined and found to be mainly dolerite.

Ron and Brian then led the group to the NW edge of Mount Warrawolong where outcrops of theralite were soon discovered, samples collected and the mineralogy explained.

We climbed back into the four wheel drives for the trip back to The Pines where vehicles were collected and driven to Muirs Lookout Picnic Area for lunch.

Following lunch, Ron took the group to the northern end of the Picnic Area to examine wheel tracks worn into sandstone rock by the steel-shod wheels of wagons used by timber gathers in earlier times. Once leaf litter was cleared from the tracks, they became very obvious.



Wheel tracks worn into sandstone rock indicate the path taken by wagons moving down the slope.

To complete the day outing, most elected to complete the Muirs Walking Trail, a 1.5 km loop through blackbutt and blue gum forests, as well as a rainforest gully. Several people found that resident leeches in the rainforest gully were very friendly.

Report by Ron Evans.

### Mulbring Fossil Quarry Saturday 8<sup>th</sup> April 2006

Leader: Brian England.

Attendance: 15.

THE MULBRING QUARRY FOSSIL DIG Depositional Environment of the Fenestella Shale Within the Branxton formation

This excursion was originally planned for 2005, but was thwarted by the appearance of a then-recent Work Cover sign on the gate warning visitors not to enter without the permission of the quarry owner. So we had to adjourn to Kitchener to examine the marine fossils in a stratigraphically lower (and hence older) part of the Branxton Formation.

This year, with the kind permission of Andy Percival in Mulbring, we were able to at last visit the quarry to study and collect examples of the Permian marine fauna from the "Fenestella Shale" exposed there.

Stratigraphically, the Branxton Formation forms the lowest unit in the Maitland Group of Permian largely marine sediments which lies immediately below the terrestrial Tomago Coal Measures in the northern part of the Sydney Basin. It was deposited during a steady marine transgression following deposition of the Greta Coal Measures, with sediment dumped by streams coming in from the north and northwest. There are sandstones and conglomerates towards the base of this formation, the latter indicating renewed and rapid deposition following uplift of the source area. Silty sandstones and siltstones become increasingly common towards the top, consistent with the development of a lower topography in the source area due to continued erosion. The Branxton Formation comprises an upper and lower unit, the lower one reaching 790m in thickness in the Greta-Branxton area and the upper one 510m in the Mulbring area. These two units are separated by a silty to muddy unit

30-60m thick informally known as the "Fenestella Shale" which outcrops only on the western and southern parts of the Lochinvar Anticline, one of several drag folds developed along the southern side of the Hunter-Mooki Thrust fault system.

The "Fenestella Shale" represents an area of relatively low energy offshore silt deposition as indicated by the nature and fragility of the preserved fauna. The rocks are crowded with the remains of bryozoans (soft corals), principally *Fenestella* and *Polypora*, the latter recognised by its multiple rows of pores as against the two rows typical of *Fenestella*. In most cases these fossils are so well preserved that the individual zooecia once occupied by the tiny polyp-like invertebrates which constructed the large fan-like colonies are easily seen. The third member of the bryozoans *Stenopora* is also occasionally found as thin ovoid layered colonies up to 15cm across attached to pebbles or shells.

Pelecypods (bivalves lacking bilateral symmetry) are represented by scattered examples of Maeonia and Chaenomya as well as occasional superb large examples of Aviculopecten, but unfortunately the closely-spaced jointing in the rocks makes the collection of whole specimens almost impossible. Brachiopods (bivalves showing bilateral symmetry) present include Spiriferoid and Productoid species. True corals found here include the solitary species Zaphrentis and the branching colonial Trachypora. Gastropods are rare and include the very small Peruvispira and occasional larger as yet un-named species. Crinoid stem fragments are common. The mollusc species are generally concentrated in thin isolated bands between the bryozoan-rich layers.

Also present are small to large (up to 0.5m) partly rounded clasts (rock fragments) as isolated groups or scattered individuals which seem totally out of place in the fine sandy rock. These **can only be explained as "dropstones". These are** rocks plucked from littoral (near shore) zones further south during the formation of sea ice and then dropped into the soft accumulating sediment on the ocean floor as the ice broke up,



moved offshore, drifted north, and began to melt along the Permian coastline. These slowly melting pebbly icebergs remained buoyant until their density exceeded that of the ocean water and then sank, often quite slowly, to the ocean bed. This explains the presence of groups of dropstones, often preserving the imbrication (crude preferred orientation) present on the original beach face from which they came. Dropstones are a common feature of Permian marine sediments in the Sydney Basin.

Several hours were spent in the quarry and everyone found good fossils. Brachiopod fossils in particular appeared to be more common and better preserved than those found on previous trips. The quarry floor had only recently been ripped, exposing a huge amount of easily accessible material to work through.

Report by Brian M. England.



The solitary coral *Zaphrentis* from Mulbring quarry Specimen is 9cm across. Brian England specimen and photo.

Information Sources.

HERBERT, C. and HELBY, R. (1980). A Guide to the Sydney Basin. Geological Survey of New South Wales. Bulletin 26.

NASHAR, B. (1964). *The Geology of the Hunter Valley*. The Jacaranda Press.

### Yerranderie Visit Friday 26<sup>th</sup> to Monday 29<sup>th</sup> May 2006

Leader: Brian England.

Attendance: 13.

### YERRANDERIE A GHOST TOWN REVISITED But the Ghosts are no Longer Alone

Yerranderie is the ghostly remains of a once thriving silver/lead mining town abandoned by the miners and their families in 1930. It now lies virtually landlocked between the prohibited area of the Warragamba Catchment and the Blue Mountains National Park, on the western slopes of the Burragorang Valley only 45 kilometres west of Camden. But to reach it these days requires an arduous journey via Oberon and the Oberon-Colong Stock Route, the last 76 kilometres a rough dirt road with a dubious reputation.

Yerranderie's boom years were between 1907 and 1914, but mining operations wound down in 1914 when most of the miners left to fight in the trenches of World War 1. After the war ended the mines continued to operate on a smaller scale until 1930, when a dispute between the mine owners and the Barrier District mining unions saw most of the miners leave the area for good. The final death blow for the mines and the town came in 1960 when the last residents, Mr. Jack Martin and his wife, abandoned the old Post Office which had been their home and headed across the Wollondilly Bridge just as the waters of the new Lake Burragorang were lapping over it. The town was now truly isolated and was left to crumble back into the bush. Home gardens were left to run wild and within a few years only the occasional fruit tree remained to mark the site of many of the homes. The mines became a home for snakes and belligerent wombats, visited only by the occasional lonely prospector.

When I first visited Yerranderie in March 1970 after a truly horrific drive down the escarpment through Corri station in an old Jeep on its last legs, it was a ghost town like no other, a unique relic where only ghosts walked the streets. It was an eerie place, and especially surreal in the early morning fog. With its isolation and difficult access, no vandalism had taken place and the town had simply been left to rot, with white ants accelerating its collapse and blackberry vines covering almost everything in sight. Camping on the front verandah of the old Post Office, we spent just a day and a half exploring the old town and the mines before undertaking the difficult journey out of the Burragorang Valley and back to civilisation. Most of the incline shafts were still open and easily accessible down to the water table and of course, with none of the current restrictions in place, we explored them all! Since then bush fires and several misquided efforts at mine rehabilitation have destroyed many of the relics or seen them placed out of context far from where they once stood. Most of the mine shafts are now earth-sealed and buried from view so that the integrity of the old mine sites has been destroyed.

In 1971, Miss Val Lheude, a Sydney architect and shareholder in the Tonali Mining and Engineering Company which owned the lease over the mines, bought out the other shareholders (including a few close relatives) and began restoring some of the building in West Yerranderie under what became the Yerranderie Total Environment Village Project. She has done a marvellous job, ensuring that what remains will continue to enthral visitors for many years to come. West Yerranderie remains a private town, and hopefully it will always be so. But East Yerranderie with its solid brick Police Station, Court House and Church, is located on Sydney Water Board property and a number of weekenders have also recently sprung up. In an apparent boom of sorts, blocks of land are currently available here for around \$16,000.

We were the only visitors booked in this weekend, apart from a contractor from the De-

partment of Lands Soil Services Group. Now the reason for the truck traffic up and down that awful track became clear. The Department has embarked on a two-year project to prevent soil and water movement from the Silver Peak and Colon Peak mines into Lake Burragorang and hundreds of tonnes of fresh basalt had been brought in from Oberon to create sediment dams. They had tried to access rock locally but found the sandstone too tough to deal with! We shuddered at the thought of the havoc that was about to be wreaked on these historically important sites.

### Friday 22<sup>nd</sup> May 2006.

Most participants used the Friday to make their way down to Yerranderie, a long 6 hour **drive from Newcastle via Bell's Line of Road**, Mount Victoria and the Jenolan Caves road, turning off at Hampton for Oberon. After refuelling in Oberon, most took the Goulburn Road down **through Black Swamp and Porter's Retreat, turn**ing onto the Blue Mountains National Park Road 11 kilometres to the south of the latter locality. The weather was fine, if a little cool and the roads had been relatively free of traffic and, more importantly, sealed! That was about to change, dramatically!

Initially, one could have been lulled into a false sense of security as we headed off to the east along what is known locally as the Oberon-Colong stock Route. Clearly more than just cows used this track, and on a regular basis. Although dirt, it was wide and smooth as it headed off through pine forests and then into dense native forest as it neared the National Park Boundary. Here we came upon a large warning sign "4WD Recommended. Four Creek Crossings" Hmmmm! Indeed the track did change after that sign. It became noticeably narrower and began to vary astonishingly in quality, with rough stony stretches, patches of bulldust which concealed seemingly bottomless potholes, and tight curves with no room to pass an oncoming vehicle. Occasionally it was no more than a well-used two wheel track through the forest, with occasional offshoots to unmarked destinations, perhaps to

true oblivion for the unwary. Only the occasional "Y" on nearby trees suggested we were on the right path. Then, as the track began to plunge through the maze of canyons feeding the Burragorang Valley, even more worrying signs appeared. In bold yellow and black they blurted out "Beware of Trucks" and Trucks Use Low Gear". Why on earth would trucks be using this track, and, more importantly, what the hell could we do if we met one coming out?

On and on the track went, twisting and turning relentlessly as the topography began to resemble a sheet of tightly crumpled newspaper. The occasional views northwards towards the deep blue depths of the Kowmung Canyon were astonishing but there was nowhere to safely stop and admire the scenery. It was impossible to take our eyes off the track for more than a few seconds, without inviting a disastrous end to the trip before even reaching Yerranderie. Just beyond the turnoff to Colong Station, the track began to descend steeply to the valley floor in a series of dizzying plunges so narrow in places that passing another vehicle would have been impossible. Backing up to let another vehicle pass was simply unthinkable!

The drive was becoming relentless; tiring. Time seemed to be standing still as the track wound down the sides of precipitous ravines and across small creeks, thankfully dry as the result of below average rainfall. Surely it must be close now, we thought as we peered desperately through the dark primeval forest for any sign of the valley floor. Then, almost two hours and 72 kilometres after leaving the comfort and security of the Goulburn road, the old road from Camden was reached. Turning left, Yerranderie was now only 4 kilometres away and on a good road through the black wattle scrub.

John and Carol had arrived yesterday and set up their camper down near the dam. Most of the others arrived at various times during the afternoon and evening. There was now time to relax, shake off the dust, and settle into the very comfortable accommodation provided by the old Post Office now called "The Lodge", refurbished by the Tonali Mining and Engineering Company back in 1968. Inside there was an enclosed log fire, plenty of seating around a large wooden table and a full commercial kitchen complete with gas stove, gas refrigerator and barbecue facilities. Additional wood barbecues lay scattered around the site. Enough cutlery and crockery filled the shelves in the kitchen to supply a battalion. Fresh water was on tap from rainwater tanks, backed up by additional supplies pumped from the nearby shaft of Bartlett's Number 6 workings, which passed under the Post Office. All we had to supply was our food! The sleeping quarters comprised small dormitory style rooms with very comfortable bunk beds, blankets and pillows provided, and even a cot for those who enjoy confined spaces.

Only the loud snoring of our room mates would have disturbed the tranquillity of a good **night's sleep that night. But I, for one, had** brought along a good supply of bluetac to overcome that problem! It proved very effective, added in increasing amounts until the cacophony of snores could no longer be heard.

### Geology of the Yerranderie District.

The old town sits on the exhumed western rim of a huge collapse caldera known as the Yerranderie Volcano which was active back in the late Devonian around 360 million years ago and formed on an earlier terrain of pyroclastics (ash) which made up the bulk of the Bindook Volcanic Complex. To the south this structure is covered



Yerranderie private village. Post Office (green) on the left.

by sediments of the Sydney Basin, beginning with conglomerates and sandstones of the Permian Shoalhaven Group which make up the lower hills and rubbly slopes around Yerranderie. Above these rocks, deltaic sandstones and conglomerates of the Permian Illawarra Coal Measures occur on the higher peaks and form the prominent cliff lines around the Burragorang Valley, including Bartlett Head which towers above West Yerranderie. These rocks are in turn overlain by Triassic deltaic sediments of the Narrabeen Group which are found above Bartlett Head on Yerranderie Peak. The Yerranderie Peak itself is a small Tertiary basalt plug which may have acted as a feeder for the valley-filling basalt flows in the region, now largely removed by erosion. To the east the caldera has been cut off by the Myall Ridge Fault.

The ore bodies fill a system of ring fractures formed around the edge of the caldera during the last stages of volcanic activity. Deposited from volcanic exhalations, the ore was later remobilised by heat and pressure associated with subsequent earth movements. Beneath the oxidised zone the principal ore mineral was galena (lead sulphide), accompanied by lesser amounts of sphalerite (zinc sulphide), pyrite (iron sulphide), arsenopyrite (iron arsenic sulphide) and tetrahedrite (a complex copper iron zinc antimony arsenic sulphide), along with native gold. The silver occurred in the tetrahedrite as well as fine inclusions of silver sulphides (mainly acanthite) in the galena and only rarely as the native metal. Gangue minerals include abundant guartz along with the carbonates siderite, ankerite and calcite, and rare barite. Surface oxidation of the ore bodies produced small amounts of cerussite (lead carbonate) ore.

A total of 14 mines were opened on the veins, but only four were major producers. These were the Silver Peak or Bore Block, Colon Peak (Bartletts), Wollondilly (formerly the Yerranderie) and Wonga (formerly the Tonali mine), arranged roughly in an arc around the rim of the caldera. A recorded total of 112378 tonnes of ore was mined and yielded 565.676 kg gold,

307854.57 kg silver and 25362 tonnes of lead. Based on 2001 metal prices the value of the metals won was over \$AUS120 million. There was no recorded exploitation of the copper or zinc in the ore bodies.

### A Brief Mining History.

Barrallier, on his journey through the Gundungura area in 1802, passed very close to the present site of Yerranderie. During the 1820's a number of graziers began to take up land on the fertile river flats of the Burragorang Valley. Then in 1871, two aborigines, Billy Russell and Billy George, found samples of galena approximately three kilometres east of the present site of Yerranderie Post Office. The Feldsworth mine was established and between 1874 and 1885 several groups took up other leases, but these were forfeited after little work was done. In 1897 James Vigar Bartlett took up several leases around the present site of Yerranderie and the field at last began to produce quantities of silver and lead, with work on the main vein beginning early in December 1898. But around 1913, production began to decline and from 1939 to 1945 much of the easily moved plant and machinery was taken away to provide raw materials for the war effort. The mines were finally abandoned around 1950.

### A Brief History of the Town.

In 1891 Harold Clyde Manning applied for the conditional purchase of several portions of land from the Crown in the parish of The Peaks. However the boom town of Yerranderie had



Walking up to the tailings dump of the Silver Peak Mine. Bartletts Head in distance.

sprung up on his land before the conditions of the grant were completed and before he received the deeds in 1911. Until 1923, Manning leased and sold blocks of land to the townsfolk. His trustee company went as far as surveying a housing estate in East Yerranderie and continued to sell blocks up to as recently as 1957, long after the area's heyday had passed. Today only a tiny fraction of the many cottages which made up the village are still standing. Most were mere shanties by today's standards, built of corrugated iron and rough bush timbers, and many were pulled down to provide materials for building elsewhere. Others simply rotted into the bush. The cottages were arranged more or less along the line of lode close to the principal mines and spread along the open grassy ridge tops for over a kilometre. Stores and other public services were spread out amongst the cottages, but eventually two separate settlements emerged, West Yerranderie centred on the Post Office, general store, butcher and garage, and East Yerranderie where the Miners' Arms Hotel, Police Station and Court House were located. With the removal or collapse of most of the buildings and the uncontrolled spread of the black wattle scrub, this division of the township has become more obvious in recent years.

### Saturday 27<sup>th</sup> May 2006.

A cold night saw many people reluctant to rise this morning, but the weather was again fine and there was no time to lose if we were to make the most of our brief stay. Following a hearty breakfast, our exploration began around 9am with a short self-guided tour of what remained of West Yerranderie, but there wasn't much left to see. Bush fires and rampant voracious white ants had taken their toll since the 1950's leaving only Meldrum's tailor shop (now a craft shop) and Mrs Barnes Boarding House adjacent to the Post Office and across the street the crumbling remnant of Woodhill's once magnificent department store, the Yerranderie Co-operative store (now museum) and Slippery Norris' cottage. So it was off to the mines to seek our fortune.

Following the main street west for 400 metres took us to the foot of the massive dumps of the Silver Peak mine, one of the richest on the field. The track around the base of the dumps had been deepened to act as a buffer to runoff from the mine and a little further west we came upon a pile of wire cages, waiting to be filled with rocks to provide retaining walls against the outflow of sediment.

At the top of the mine dumps we found the main shaft, the only vertical shaft on the field, plunging 564 feet before becoming underlay on a 30° slope and providing access to 9000 feet of mine levels. The shaft had been fenced but a walkway had been built over it to enable visitors to peer down into its black depths. Nearby lay the remains of the boiler house, now only a jumbled pile of broken firebricks, and a corrugated iron water tank reinforced on the outside by tensioned wire ropes. Areas of fines which may have contained arsenic had been fenced off. The dumps also gave us a fine view of the extensive mill ruins and tailings dam in a gully immediately below and to the north. It would normally have been a tranquil setting in which to relax and enjoy the ambience of the ruins and surrounding bush, but in the distance the peace was being shattered by the loud clanking of heavy machinery as history was slowly being destroyed in the name of rehabilitation!

Opened in 1904, the mine had three boilers and a Robey winding engine, with between 60 and 70 men employed. It covered 260 acres and held the richest body of ore discovered on the field. In some places the ore vein was 13 feet



Stamper remains at the Silver peak Mine.



Mullock heaps below the Silver Peak mine workings.

thick and one stope 135 feet in length yielded 20 tons of silver, 1700 tons of lead and 562 ounces of gold. There was little left on the dumps except barren quartz and tuffaceous wall rock, but diligent searching uncovered heavy lumps of ore blackened by weathering which provided rich specimens of galena, tetrahedrite, sphalerite, arsenopyrite and pyrite when broken. More good specimens were found (especially by Carol) along the remade roadway as we left the site and headed off north to the Colon Peak mine along a freshly cleared track.

The Colon Peak was the first mine to begin production of payable ore on the Yerranderie field around 1898 and employed 45 men. The main incline shaft is 460 feet long and serviced 15000 feet of levels. Surface plant included a suction gas plant, five boilers and a concentrating mill. The lode was the most favourable on the field and no capitalisation was ever needed throughout its entire operation to 1923. One stope alone provided 220 tons of ore which yielded 11328 ounces of silver, 25 ounces of gold and 12 tons of lead. Operations restarted in 1969 and new plant was installed but falling metal prices saw the mine closed before any ore was produced. The area is now almost completely overgrown but we found the engine shed complete with engine and drive shaft operating both the mine winch (since removed) and a jaw crusher, which still stood on its original foundations below the shed. These relics probably date from the 1969 operations. The incline shaft is still open but fenced and in the process of collapse.

Scattered around the site were various relics, including a mine car specifically designed for dewatering the deeper workings. Across the creek we found the earlier concentrating mill, with only the remains of a small steam engine and a few blackened timber posts left as a reminder of the mine's heydays.

Even here the old dumps were being "reorganised" as part of the current rehabilitation exercise, again destroying the integrity of the site for future students of industrial archaeology. We followed the track around behind Bartlett's Number 6 to the Main Shaft and then headed back to The Lodge for a late lunch.

The afternoon was spent exploring the remainder of the mines, beginning with the Wonga mine, accessed by a rough track which leads off down past Krubi Cottage, a restored miner's hut now used by the area's full time caretaker. As the track headed off down the hill, initially through open eucalypt forest, we noticed the dumps of the St. George mine down the slope to the right. But a quick exploration of the site revealed nothing of interest. Down and down the track plunged through the now thick scrub, eventually reaching the dumps of the Wonga mine at the bottom of a small V-shaped gully leading into the Tonali River. The incline shaft was still open, but securely fenced since my last visit when we were able to guite safely access the mine down to the water table, a distance of several hundred metres, and explore many of the levels. Adjacent to the shaft we found a small pile of quartz boulders partly covered by soil washed down from the steep hillside behind. This appeared to be an ore stockpile from fairly recent operations and breaking the rocks open with heavy hammers revealed a wealth of good specimens of silvery galena along with pyrite and siderite. The specimens were distinctly banded, as would be expected in a hydrothermal ore vein where minerals built up in layers from the vein walls inwards, often leaving central cavities.

The Wonga mine was opened in 1911 on an unpromising vein, although some ore assayed as

high as 1500 ounces of silver to the ton and 60% lead. The ore from here was concentrated at the Burragorang mine to the east. It is ironic that the dumps of this marginal mine now provide the best ore specimens to be found on the Field.

Our bags heavy with specimens we then tried to find the back track to Krubi Cottage. Although clearly marked on our maps it was not so clearly marked on the ground and soon any signs of a previously used route just vanished into the dense scrub. But we pushed on up the crest of the ridge knowing that eventually we would strike the main road leading back to the village, hopefully before nightfall. Along the way we passed many groups of small prospecting shafts, but with no sign of ore minerals, and then a large dam. Now we knew where we were and after another few hundred metres we came to the track leading up to the old school site. From there it was only a short hike along a good road back to Krubi Cottage.

Back at The Lodge, the kitchen soon rang to the sounds of a dozen dinners being prepared but somehow we all managed without serious incident and sat down to a fine meal and pleasant conversation, which lasted well into the night.

### Sunday 28th May 2006.

The day dawned guite cool with a cloudless sky - perfect conditions to tackle the climb to Yerranderie Peak, the sharp 873 metre pinnacle above Bartletts Head which loomed over West Yerranderie and dominated the local topography. A quick breakfast and we were off, finding the track to the summit clearly marked from the main road. The wooden sign at the track head indicated it would take around 2 hours up and back, to which some disgruntled bushwalker had added "and more". Right from the start it headed quite steeply up the spur to the base of the cliffs along the eastern edge of Bartletts Head, forcing many of us to pause every few hundred metres to catch our breath. But it was not a race. We had told the others back at The Lodge we would re-



Negotiating "The Chimney on the way down from Bartletts Head.

turn in a just a few hours, mindful of the fact that our group normally completed walks such as this in well under the recommended time.

Reaching the base of Bartletts Head, the track then followed a horizontal bench recessed into the cliff face by erosion of softer layers beneath a band of conglomerate, giving us a brief respite from the steep climb. But there was more, and worse to come! A few hundred metres of fairly easy walking brought us to the base of "The Chimney". Here we found a narrow cleft running diagonally up the cliff face, with enough natural steps and handholds to get us up to the slope above the cliff line. It looked a little daunting from the bottom. To avoid accidentally sending rocks down on those below, we scaled the cleft one at a time and found it no great problem. But coming down may be guite a different matter. Anyway, everyone made it up safely and ready to take on the challenge of another very steep climb along a well-defined switch-back track which wound its way between and sometimes over the boulders littering the slope. At last we found basalt under our feet and there to the west lay the most stupendous uninterrupted view out over the Mootik Wall, formed by sandstones of the Illawarra coal Measures, to the rounded dome of basalt-capped Mount Colong, and beyond. But we were not there yet, and another few hundred metres brought us to the peak

itself. It had taken an hour but we felt a sense of achievement at having reached our goal. But this was soon to be dampened somewhat when we were overtaken by a troupe of young Venturers at full speed who unashamedly let us know that they had completed the climb in less than 20 minutes! Oh well!

We stayed only a few minutes, long enough for Ron to enter our names in the visitors' book, before tackling the descent. At the top of The Chimney we detoured along a cliff-edge track to Bartletts Head for even better views of the mines, the old town and the Burragorang Valley. Back at The Chimney the climb down looked even more daunting but was again negotiated without incident. Going down the mountain was worse than going up, if that can be imagined, and took a heavy toll on our knees. Even our most seasoned bushwalker described the route as "hard". Exactly three hours after setting out we were back on the road and only a few minutes from camp. Come on fellas, we'll have to pull our socks up! There's a reputation at stake here.

Back at the Lodge we took time out for morning coffee and then a quick lunch while we waited for the caretaker to arrive and guide us out to the Crystal Mine. Stopping beside the **Byrne's Gap road just a few kilometres out of** East Yerranderie, the problem now was to find the mine, just a group of small pits about 800 metres to the west of the road. Our guide had tried to find the mine this morning without luck, but this time and within a few minutes both he and I



AGSHV members Bartletts Head. Wonderful views, well worth the effort!



Tony looking for quartz crystals at the old Crystal Mine.

found it at the same time, coming at it from different directions.

Quite large transparent quartz crystals had been found here in the past while prospecting for silver ore, but the site had suffered considerably from the visits of countless rock hounds who had virtually destroyed it in their search for crystals. The dumps comprised blocks of white vein quartz of various sizes, many showing tantalising signs of crystal-lined vughs but little of real interest. The parent vein was no longer visible in the workings. However Janet did find a nice small crystal, the only good find of the day.

Our guide left us to it after just a few minutes. He had to return to the airstrip as Val Lheude was flying in around 2pm to prepare to receive some important visitors the following day. Some would have been content enough to sit on the dumps breaking rocks for the rest of the day but we stayed just long enough not to reveal our collective disappointment to our wellmeaning guide. There may well be good specimens here but it would take time - more time than we could afford on this trip. Now that we knew where it was, we could always come back.

Finding our way back to the vehicles through the dense black wattle scrub presented little problem and once there we drove back towards the town, turning off to the cemetery at Kerry Shaft. The Cemetery is a must for visitors and its presence is the major reason for the construction of the current access track in from the Oberon-Colong Stock Route. After the route from Camden was flooded by Lake Burragorang, relatives demanded that access be provided so that grave sites could be visited and maintained. The area set aside for burials was quite large and divided up into the various denominations, but there were few headstones, most of the graves marked simply by a low anonymous mound of earth.

Back at the Kerry Shaft, already rehabilitated some time ago, we spent a few minutes breaking up rocks on the dumps in the hope of finding something interesting, but to no avail. There were lots of pyrite and siderite but no ore specimens to compare to those we had found at the Wonga mine. I had found interesting siderite crystals here on my first visit, but they were few and far between now.

After arriving back at The Lodge, most of the group decided to take a walk out to the Wollondilly mine, another of the major silver producers on the field and with the most extensive underground workings. It was easy enough to find, out past the old school, and here we located the remains of the boiler and winding engine still in place although the entrance to the 448 foot deep underlay shaft had been filled, its position shown by a shallow depression a few metres south of the winder. The waste dumps here were vast, fanning out like the arms of a starfish into the bush. But there was no sign of the beautiful pyrite and siderite specimens I had found here in abundance on my first visit in 1970.

The Wollondilly mine was opened in 1898 and proved very successful, with extensive stoping of rich ore along 20,000 feet of levels providing consistently good dividends. It was connected underground to the adjacent Burragorang mine. During mining, pure native silver was found in the upper of 24 levels.



PLAN OF WORKINGS (1930)



Colon Peak Mine from Bartletts Head - Mt Colong in distance to the left.

The sun was about to set as we made our way back to The Lodge. Our exploration of this fascinating town and its old mines was over. Tomorrow most of the group would head back to the drudgery of civilisation with fond memories of a very successful field trip into one of Australia's forgotten places. We will return!

Report by Brian England.

### Soup and Slides Saturday 17<sup>th</sup> June 2006

Once again, Soup and Slides was held in Ron and Ellen's shed with 31 people attending.

A photographic competition was held again this year. Members were invited to enter two photographs in each of five categories -Geological, Landscape, People, Humorous and Miscellaneous. Photographs were numbered and displayed in each of the categories and members invited to vote for their favourite photograph in each category.

Category	First	Second
Geological	Tony Turnbull	Leonie Mills
Landscape	Tony Turnbull	Brian England
People	Ron Evans	Leonie Mills
Humorous	Leonie Mills	Elaine Collier
Miscellaneous	Elaine Collier	Jan Harrison

Winners in each category

The standard of photographs displayed this year were very high. Congratulations to all participants and winners.

Then followed the usual fabulous meal of tasty home-made soups and bread followed by sweets, tea and coffee.



Report by Ron Evans.

"Dinner is Served!" Xmas Gathering 2005.

Ron's winning photograph in the People Category.

### Maitland Historic Walk Saturday 22<sup>nd</sup> July 2006

Leaders: Brian England and Ian Rogers.

Attendance: 28.

Maitland – A brief early history of the city.

Before white man came on the scene, the Worimi aboriginal tribe roamed the banks of the Hunter River where Maitland now stands and called the area Bu-Un (Place of the heron waterfowl). The first Europeans to explore the area were the cedar cutters from Newcastle, who set up camp at the junction of the Hunter River and Wallis Creek in 1804.

Maitland is one of the oldest cities in New South Wales. It was never intended to be a town. with its low situation making it susceptible to disastrous floods. People settling the area as early as 1812 ignored the higher ground to the east and built on land fronting the Main North Road beside the Hunter River, because the teamsters were in the habit of camping there due to the proximity of fresh water. However after the first recorded flood in 1820, the settlers petitioned the government to establish a town on a more suitable site. The new town of Maitland (now East Maitland) on the high ground to the east was surveyed, planned and finally proclaimed in 1833. However bureaucracy had procrastinated so long over establishing the town that the initial settlement on the banks of the Hunter River grew and flourished as a private town along the bullock track, forever eclipsing its legitimate sibling.

The original settlement was first called Wallis Plains (after Captain James Wallis) or **sometimes just simply "The Camp". It was later** called Molly Morgan Plains after the pioneer Molly Morgan, a convict transported twice to Australia and granted 64 hectares of land on the Hunter River there by Governor Macquarie around 1819. Wallis Creek (which now divides Maitland and East Maitland) had been a major impediment to land travel between Morpeth and "The Camp" but after it was bridged in 1827, the route became the gateway to the interior. Soon there was a grassroots growth of coach-stopping houses, essential items stores and shanty wine saloons catering for the needs of farmers, convicts and travellers along the meandering roughly cleared bullock track that was later to become High Street. The area was mainly dense timber with patches of luxuriant rainforest surrounded by swampland, but the soil proved extremely fertile, so clearing and settlement continued steadily until quite a large population had made it their home.

The town area was originally allotted in Crown Grants to the early settlers, who gradually disposed of it, sometimes parting with rather large portions for a few gallons of rum. As a result, the town was unplanned and surveying only occurred as land owners subdivided their holdings for sale. In time, the North Road had become a major supply route and the carting industry was an extremely important one, with as many as 100 teams camped on the river bank at any one time. We must remember that there was no railway then, and only a few small steamers plying between Morpeth (then called Green Hills) and Sydney. In 1834 application was made for Wallis Plains to be called West Maitland and this change was made in 1835. The unofficial town was now officially recognised and eventually it became a thriving farming and commercial centre, with a population of 2400 by 1846, and was the great central distribution depot for stations and settlers north to the Queensland border. It was also only the third settlement developed outside the Sydney Basin.

In 1858 the railway was opened between West Maitland and Newcastle and it was later extended to Lochinvar, Branxton, Singleton, Murrurundi and other northern towns until it reached the Queensland border. Later a branch line was constructed to Morpeth, the shipping port for wool and station produce from the north and for local coal. West Maitland was incorporated as a municipality in 1863, with William Henry Mullen the first Mayor.

Where the Belmore Bridge now spans the Hunter River was the upper limit of navigation for river craft, just downstream of a shallow crossing place called The Falls. In 1869, after a decade of public lobbying, a safe bridge of lattice iron construction was provided which could carry pedestrians and bullock teams hauling 50 ton loads across the river and led to residential development on the north side of the river at Lorn. It was named the Belmore Bridge in honour of the Governor of New South Wales, the Earl of Belmore. For a short time in the 1870's a toll was charged for its use and sliprails closed the bridge between midnight and 4am. The tollhouse was descried as "a bark kennel with no window, no flooring and no convenience whatsoever; not even a seat for a man to sit on, and not watertight. It had a slab chimney and bark walls and the structure was propped up at the back by a batten. It was not fit to put a decent dog into." In the great floods of 1893, 1913 and 1930 the bridge was chocked and rammed by debris and many thought it would not survive the 1955 flood. In fact the bridge withstood 33 floods over its 95 year life. But flood damage and deterioration caused by a massive increase in motor traffic resulted in the old bridge being replaced by the present bridge, opened on 4<sup>th</sup> April 1964. The single column reinforced piers were designed to deflect flood debris and hence minimise damage.

The prosperity of the town reached its peak in the 1880's, but then the completion of the rail connection to Sydney robbed the town of much of the immense trade it had with the northern districts. However the opening up of huge local coal reserves compensated for this loss.

East and West Maitland together with Morpeth were amalgamated and proclaimed The City of Maitland on 7<sup>th</sup> December 1945. West Maitland became known simply as Maitland in **the early 1950's. Maitland is now the third largest** provincial centre in New South Wales and is rightly called the hub of the Hunter.

There are many fine public and private buildings in the Maitland area including the

town Hall, Post Office, Court House, Technical college and public schools, while many if its churches, banks and business houses are unsurpassed for their architectural quality.

Building stones – A local source leads to a thriving local industry.

Around the early 1870's Thomas Browne established a monumental and building mason business that grew to become the largest of its kind in the Commonwealth. White marble was imported directly from Italy, but the main source of the Company's stone was its own sandstone guarry at Ravensfield, only 8 kilometres from the city. The quality of this Ravensfield Sandstone was such that it could withstand almost double the load pressure of Pyrmont (Sydney) sandstone before cracking. Professor Edgeworth David described the stone as "a warm sepia brown appearance; it is fine grained, a good freestone, easily worked, and it is one of the best building stones of its kind yet found in New South Wales". Many of the substantial buildings in Maitland and the Hunter were constructed of this stone. Sadly this firm of artful stonemasons no longer exists and their Ravensfield guarry, once a source of fine Permian marine fossils including rare exquisite starfish, has laid derelict and overgrown for several decades.

In the 1960's a considerable amount of sandstone was blasted from the Ravensfield quarry to help construct the Maitland Crib Wall to protect the High Street shops from the direct flooding which caused so much devastation in 1955.

### Maitland Had Trams Too!

Between 1918 and 1920 it cost 4 pence to travel from Victoria Street in East Maitland to Regent Street in Maitland by steam tram via the Long Bridge. The first tram departed East Maitland for West Maitland at 3:10pm on Monday 28<sup>th</sup> February 1909. But this and other tramway ventures failed to reach commercial success and on the evening of Friday 31<sup>st</sup> December 1926 trams operated for the last time on four isolated



sections of the New South Wales Government Tramway Undertaking – at Maitland, Broken Hill, Bexley and Parramatta. The network had succumbed to the motor bus which was cheaper to operate.

### Our Tour of Maitland City's Historic Buildings.

For the most part our route followed the Maitland Heritage Walk (Central Precinct), a project of the Maitland District Tourist Association Inc., with additional funding provided by the Heritage Branch of the Department of Planning under the Heritage Assistance Program. Brochures on the walk are available from the Maitland Visitors Information Centre. Only those buildings <u>not</u> included in the brochure are discussed in this article.

We began at Maitland Railway Station, leaving our vehicles in the carpark, and proceeded up Church Street to High Street and then west to the Court House. From the Court House we took the Maitland Riverbank Walk, a project only recently completed by Maitland City Council and the New South Wales Heritage Office. Along the walk a series of interpretive signs give details on the river crossings, aboriginal heritage, early European history, flora and fauna, and early riverside industries of the Maitland area. We then returned to High Street and headed east down the Heritage Mall.

Maitland's Heritage Mall in the main commercial centre of Maitland is a sympathetic blend



Some of the many participants enjoying the Maitland Historic walk.

of historic buildings with modern commercial displays. Most date from the mid 1800's or before

Their wealth of decoration and substantial design reflect the prosperity of the town from its earliest settlement. The mall was constructed as a Bicentennial Project and was opened on 17<sup>th</sup> November 1988, soon after the opening of the final stage of the inner-city by-pass in September.

We continued east down High Street beyond the area covered by the Maitland Heritage Walk brochure to include several other historical buildings and sites worthy of note.

Maitland Repertory Playhouse was built in 1857 as the Congregational Church during the ministry of Reverend Edward Griffith, father of the first Chief Justice of Australia, Sir Samuel Griffith.

A little further to the east lay the former site of the Cappers Hardware building. Founded in 1843 by Edward Peter Capper, this was the oldest and one of the most extensive establishments outside Sydney. But at 11:40pm on Monday 6<sup>th</sup> December 1971, a devastating fire destroyed the historic building and so badly damaged the adjacent Volunteer Hotel that it had to be demolished. Ironically Pullins Home Furnishings, which had leased part of the building as a carpet store, had lost a considerable amount of stock only two nights before the fire to a flood caused by a blocked drain! The Cappers building was constructed mainly of old sandstock bricks and there was a rush during the demolition to



Cappers Hardware building being destroyed by fire on 6th December, 1971.

obtain these highly coloured bricks. My father, being Postmaster at the time, was able to pull a few strings and we ended up with some of the best of these bricks, which now form a feature wall in our lounge room at 28 Byng Street, Tenambit.

The Maitland Mercury, on the opposite corner to the site of the old Volunteer Hotel is the oldest established provincial paper in Australia. It was established in 1843 by Thos William Tucker and Richard Jones as a weekly, but its success was so great that it was soon enlarged and published twice and then three times a week. In 1894 it appeared on the news stands as an afternoon daily of four pages.

The next block to the East Maitland Technical College, built in 1912 and once housing an extensive natural history museum before it became a trades school, now houses the Maitland Regional Art Gallery and at the time of our visit was showing a collection of paintings by local and international artists called *Maitland from the Riverbank*.

The former David Cohen building is now the Social Security Office. Established in 1836, David Cohen & Co. were amongst the importers whose ships came direct from London to Morpeth. The top three floors were destroyed by fire, **leaving only one as a reminder of the building's** former elegance. Here we crossed the road and headed back west down High Street past the Town Hall, designed by architect J. Scobie and completed in 1889.

The next building of interest, designed by architect E. Blackett in 1864, opened as the CBC Bank in 1887 and later became the National Bank. It stands as a monument to the great energy and confidence of the Victorian Age. Built of Ravensfield Sandstone it is considered one of the finest bank buildings in NSW. It is now the Mansfield Function Centre.

From the CBC bank we continued down past the theatre complex (the former gas works site), then south down Bourke Street, and via Olive and Elgin Streets back to the Railway Station to complete our walk and pick up the vehicles for the short drive out along Oakhampton Road and Scobies Lane to Walka Water Works for a picnic lunch and look around this historic site in its attractive park-like setting.

Originally designed by English hydraulics engineer William Clarke in 1877 in Victorian Italianate style, construction of these works began in 1879 and was completed in 1887. The works provided the first safe clean permanent water to Maitland, Newcastle and the Lower Hunter. The only water supply prior to this development was from wells, springs, weirs and rainwater tanks. The Name Walka was taken from the nearby lagoon on the Hunter River from which water was pumped into holding reservoirs before being purified and sent on to two summit reservoirs at Buttai and Rutherford, from where it gravitated to Newcastle and Maitland respectively. The pumping equipment at Walka included three vertical beam engines manufactured by James Watt of Soho and Birmingham and a working model of one of these engines forms part of the small museum in the old pump house.

The pumping station and over 463 miles of mains came under the control of the Hunter District Water and Sewerage Board in 1892. However during drought periods there was insufficient supply and in 1913 the Government decided to develop a gravitational scheme based on the Chichester Dam, which was completed in 1924. The works were put on standby in 1925 and, with the completion of the Tarro Pumping Station, were closed in 1929. In 1949 all plant from the complex was sold for scrap. The site was re-opened in 1951 when the State Electricity Commission erected a temporary coal-fired power station to overcome post-war power shortages. This station was decommissioned and dismantled in 1978.

Since 1984 the site has been part of the National Estate and is under a permanent conservation order (NSW Heritage Act 1977). It is now managed by a Trust.

### Report by Brian England.

### INFORMATION SOURCES.

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Buses Killed State's Steam Tram Network. Maitland Mercury, December 5<sup>th</sup> 1974.

### Australian Museum Mineral Collection Saturday 19<sup>th</sup> August 2006

Leader: Brian England.

Attendance: 13.

Nine members joined the 6:48am train from Broadmeadow at various points, to eventually arrive at Central Station in Sydney at 10:10am, just on an hour late due to track work. We could have walked quicker between Hornsby and Central! We then jumped on a local train and got off at St. James for the short stroll across Hyde Park to the Museum at the corner of William and College Streets. Our visit to the Museum was originally deemed urgent by the impending closure of the mineral gallery to make way for new exhibits. The minerals were to be placed in storage and out of view to the general public for an indeterminate period of time. Fortunately however the Museum had run short of the funds necessary to make these changes and the mineral gallery is to stay where it is for the foreseeable future.

After coffee at the Museum café we began our tour of the Mineral Section, beginning with the Chapman Mineral Gallery. This opened a few eyes amongst our members to a world that only a few had any idea existed. Albert Chapman was the doyen of Australian collectors and personal

![](_page_22_Picture_5.jpeg)

Ellen Evans, Chris and Bob Gray admiring one of the many displays in the Chapman Mineral Gallery.

mentor to many, including myself. Although not a professional mineralogist (he was a cabinet maker by trade), he had a unique appreciation for fine minerals and their worth as a valuable part of our natural heritage. By the time of his death in July 1996 at the age of 84, he had assembled one of the finest private mineral collections in the World. Just prior to his death, the collection had been purchased by the State Government (for \$1 million) and put on display in the Mining Museum, but when this institution closed it was automatically transferred to the Australian Museum. Albert personally encouraged most of Australia's current mineral connoisseurs and especially towards the end directed many of his own specimens into the hands of those he knew would appreciate them. I for one benefited enormously from my close association with Albert and without his help and guidance would never have achieved such a high level of appreciation for our mineral heritage.

Then it was time to tour the mineral gallery itself, a treasure trove of knowledge and beauty with some of Australia's finest minerals on display, including an incredible Broken Hill cerussite, part of an early donation of oxidised zone minerals by BHP.

The Museum is the oldest institution of its type in Australia and was instigated on 30th March 1827 when the Colonial Secretary in London set aside 200 Pounds to assist in the establishment of a public museum. However it did not become established until 1829, under the direction of W. Holmes, Colonial Zoologist. The first Museum catalogue was published in 1837 and included fossils from Harper's Hill and the Newcastle Coal mines in the Hunter Valley. The first permanent building on the present site was opened in 1849. In 1841 the Rev. W.B. Clarke, the father of Australian geology, was appointed Secretary and Curator. Clarke died in 1878 and his collection was purchased by the NSW Government for 700 Pounds. It was stored in the Garden Palace which was destroyed by fire in September 1882, a massive blow to Australian palaeontology with the loss of thousands of type specimens. The first Museum mineralogist was Felix Ratte,

followed by Thomas Cooksey, Liversidge, Charles Anderson, Hodge-Smith and eventually Oliver Chalmers in 1948. I came to know Oli quite well and he never seemed to tire of the repeated requests for information and mineral identifications I rained down on him. In fact it was Oli who first introduced me to the fascinating ghost town of Yerranderie and its silver mines, and provided the letter of introduction that got me past a rather officious property owner who acted as a ranger for the Sydney Water Board. Once he saw Oli's signature on the letter, he had to let me in! So my association with the Australian Museum goes back quite a way and I retain an active involvement with current staff as a Research Associate.

### Report by Brian M. England.

![](_page_23_Picture_2.jpeg)

Bottle Tree Garden, Mount Penang Gardens.

### Mount Penang Gardens, Kariong Saturday 16<sup>th</sup> September 2006

Leader: Brian England.

Attendance: 7.

The Society visit to the Mount Penang Gardens at Kariong had been originally scheduled for Saturday 9<sup>th</sup> September, but this was found to coincide with the main day of the Kariong Flower Festival, billed as the largest outdoor garden show in the Southern Hemisphere. Parking and access were perceived as very real problems, so the date for our visit was changed to Saturday 16<sup>th</sup>. However, since I would be at the Garden Show anyway it was decided that anyone who wanted to visit both the Show and the Gardens could turn up on the 9<sup>th</sup> as originally planned.

Friday 8<sup>th</sup> dawned partly cloudy but fine after consistent heavy rain the day before, although the Gosford area had largely missed out. All looked well for the weekend, even though the forecast had predicted scattered showers. But things were to turn out quite differently. Saturday dawned dull and overcast and by the time we had reached Wyong the rain was really pelting down, reducing visibility on the Freeway to just a few hundred metres. It was not to let up for the next three days, dumping record falls for September in many areas, including Maitland.

At the appointed meeting time, I found four hardy souls huddled in the Waterfall Café at the Gardens, cold and just a little wet, trying to warm themselves with mugs of cappuccino. After a few more coffees it was unanimously decided to abandon the Gardens and spend the rest of the day at the Festival.

As we got our tickets the rain really started pelting down. Fortunately most of the stalls and exhibits were under cover, but moving between them proved quite perilous. Copious amounts of sand, straw and cardboard were being laid down in the boggiest patches, only to float away in the next downpour. Some plant sellers found their wares bobbing around in miniature lakes, but the few selling artificial rock waterfalls had phenomenal displays without even turning on a tap! One stall holder commented rather dryly as I passed "You that desperate for water at home", and looking down into the bucket I had bought to carry my few plant selections around in I found it full of water and just about to overflow! No wonder it was getting damned heavy! The rain literally was coming down in buckets. Everywhere the mud and slush was over ankle deep and in some places so thick and glutinous that it sucked the shoes off our feet with a loud "thock". It was such a shame: such a fantastic event almost completely ruined. But we all enjoyed it nonetheless and waded out the gate with a few more plants to find spaces for.

Saturday 16<sup>th</sup> turned out much nicer and a pleasant few hours was spent wandering around the different sections in the Mt. Penang Gardens. An \$8.7 million State Government project, the Gardens opened in November 2003 and showcase around 800 plant species contained within 6 rooms covering a total area of 6 hectares. The rooms were inspired by the blind canyons typical of the Hawkesbury Sandstone. Disappointingly the cactus garden had been severely trashed by vandals, with bits of hacked plants scattered all over the place. The morning finished with a nice lunch and yet another cappuccino at the Waterfall Café overlooking the water lily pond.

![](_page_24_Picture_2.jpeg)

Beautiful weather for garden rambling on the 16<sup>th</sup>.

Report by Brian M. England.

### Mount Alum, Bulahdelah Saturday 30<sup>th</sup> September 2006

Leader: Ron Evans.

Attendance: 12.

ALUM MOUNTAIN, BULAHDELAH, N.S.W. A short story by Ted Baker.

Near the village of Bulahdelah 44 miles north north-west of Newcastle, lenticular to pipelike masses of alunitec rock occur in a narrow range of hills consisting of sediments interbedded in rhyolite. The general strike and dip the alunitic masses are parallel to the meridional jointing of the range. Alunite was mined from 1878 to 1927, then again from 1934 to 1950, with output about 72,165 tons. The maximum annual production was 3,644 tons in the year 1902. The mine closed down in 1952.

In mid 1952 Alunite (Aust.) Pty. Ltd., the only producer, ceased supplying the parent company, Sulphates Ltd., because of rising freight charges to Victoria. There has been no production in recent years.

The natural phenomenon that is the Alum Mountain is the only known alunite deposit of potassium bearing minerals in N.S.W. The mountain is a mass of altered rock, possibly Trachytic or Rhyolitic with associated sediments, some 900 ft high and 3 miles long. It was first mined in 1878 when the Rum Corn Alunite Company was formed.

The Rum Corn Alunite Company mined from the centre of the rock face until 1883-84. All treatment was carried out at the mine, and a railway line was built from the mine to the wharf where the treated alunite was taken by water to Windywopper where it was used as ballast in boats returning to England.

A new mining company was formed in 1888 and formed the 'Big Quarry' on the other side of the small mountain. This was worked until 1910 then sold to the 'Australian Alunite Company' with its head office in Melbourne.

In 1908, Kimberly Quarry collapsed killing two, Charles Keel and Crocford.

The Ladysmith and Kimberly Quarries appear to be worked out as far as high grade material is concerned, but there remains a quantity of lower grade ore, in the southern face of the small quarry at the back of the mountain. Irregular patches of pink coloured alunite are exposed and a fair extent of similar material is still below the floor.

The most extensive work on the mountain has been carried out at the Tunnel Quarry. It was worked underfoot to a depth of 30 to 40 ft before a tunnel was driven below the floor to facilitate removal of the ore.

Prospecting work from the tunnel revealed two alunite bodies at a depth of 51 ft below the floor. Apparently some 1,200 tons of alunite were won from here and when mining ceased it was considered that there was a reserve of 5,000 tons available.

Alunite deposits have been worked in five major quarries and a number of smaller ones. There appears to be some confusion as to the naming of the various quarries and the names by which they are known locally have been adopted.

<u>BIG QUARRY</u> on the northern end of the mountain, and to the eastern side of the small mountain.

LADYSMITH on the western face at the northern end just past the incline line and past the boiler.

<u>KIMBERLEY</u> on the western face almost above the boiler that is to the south of the boiler, with the tram line a little further down.

<u>TUNNEL QUARRY</u>. This quarry is seen at the end of a double cutting going towards the central face of the mountain also on the western side, at

![](_page_25_Picture_10.jpeg)

Myall Quarry easily accessed from the Ted Baker Walk.

the end of the vehicle road. The quarry is entered by a small tunnel. Through this tunnel one passes through a section of conglomerate rock before coming to the quarry face showing pink alunite.

Working along the old tram line to the south there are a number of un-named quarries. <u>Myall quarry</u> is to the left of the loop in the traffic road. The tram line goes on the end of the mountain escarpment overlooking the Myall River, where a tunnel and cuttings were worked.

Alunite is utilized mainly in the production of potassium sulphate fertilizer and of potash alum. Potash alum is used in the purification and filtration of water in the manufacture of paper and as a mordant in dyeing.

Alunite has been mined at Bulahdelah N.S.W. (formerly by underground methods, but in recent years by open-cut mining). The alunite was used by Sulphates Ltd. in Melbourne for the production of potash alum which was distributed directly by the company and also through wholesale chemical firms,

The alunite tramway on Bulahdelah mountain was a single tracked tramway with a loop line half way on a self-acting principle. A large drum at the top of the incline, was controlled by a hand brake - a large hemp rope wrapped around the drum with a long wooden lever on which a man could stand and apply pressure. A strong steel cable was wrapped several times around the drum which was fitted with sides to keep the rope in place. One end of the cable was attached by a link to the loaded ore truck waiting to descend and the other end to the empty ore truck waiting at the bottom level of the inclined way. Upon the drum brake being released, the loaded ore truck containing about 30 cwt of alunite, descended the inclined way by gravity hauling up the empty ore truck, to pass on the loop line half way up. The empty truck would move into the loop just in front of the downwards full truck, hitting a large metal disc and setting points, allowing the full truck to pass down the main line. At the top of the incline, just in front of the haulage drum, was a steel turntable to which all lines converged allowing the ore trucks to be moved in any direction.

At the lower end of the inclined way were three or more hoppers into which the ore was tipped. From the bottom of the hoppers were shoots for loading the ore into tipping drays. The drays once loaded, were then pulled down to the river by two horses. There it was stock piled, then loaded into wheel barrows and wheeled on to the barges for transport to Windywopper.

At a later date a rail line was run from the bottom of the incline way, to another set of hoppers at the river. Each truck had a hand brake the winding type. The trucks were filled at the hopper then a man would ride the truck to the bottom of the gully in Church Street. From there a horse would pull the truck to the top of the rise and then the truck would roll down to the barge gantry. Later, a number of empty trucks would be returned to the incline hoppers by horse.

#### ALUNITE or ALUM STONE.

At Bullahdelah Mountain, close to the town of that name in the County of Gloucester, there occurs what is probably the largest deposit of alunite in the world. Alunite is a mineral consisting of hydrous sulphate of alumina and potassium, and it is used in the manufacture of commercial alum. Bullahdelah Mountain was originally formed of sheets of rhyolite, which were bent into an anticlinal fold, thus forming a narrow and steep mountain ridge. Probably, owing to the action of sulphurous gases on the Rhyolites, the latter have been converted, over a considerable area, into alunite, and the mountain now consists of steep white cliffs of that mineral. The deposits are held under mineral lease by the Australian Alum Company Limited, who ship the mineral to their works at Runcord (England). As the mine is only about half-a-mile distant from a wharf on the Myall River, the cost for freight is not high.

During the year 1904 only 370 tons of alunite were exported from New South Wales, as against 2,484 tons in 1903 and 3,644 tons in 1902, so that it would appear as if the industry were in a somewhat depressed state at present. There is every reason to believe, however, that the Bullahdelah deposits will ultimately prove to be an asset of considerable value.

An analysis of the best quality of alunite from Bullahdelah showed its composition to be as follows :-

Combined water	13.19
Silica	.92
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> )	.26
Alumina (Al <sub>2</sub> O <sub>3</sub> )	37.52
Potash $(K_2O)$	9.51
Soda (Na <sub>2</sub> O)	1.12
Sulphuric anhydride (SO <sub>3</sub> )	36.76

100.28

Description from the North Coast Steam Navigation Company's 'Guide to the North Coast, 1905'.

### Remaining Today.

One of the first things one sees after leaving the picnic area at the old Tunnel Quarry and walking north along the old tram line is THE BOILER.

It was moved to that site on the 24<sup>th</sup> February, 1930 and prior to this it supplied steam to a small engine which drove a hauler used to pull trucks loaded with ore from the big quarry to the crusher. The crusher stood on the eastern side of the saddle between the two mountain peaks. This engine also worked the crusher and all treatment was carried out at this site.

The mullock heap or tailings were allowed to spill out over the eastern escarpment. It is estimated several tons of crushed ore are still there. Many tons of powdered raw alunite are still at the foot of the mountain road, where the inclined railway ended. This operation ceased about 1910. The engine with its fly wheel stood where the drinking water tank now stands, in the top picnic area.

Both it and the hauler were taken away for scrap in the late 195Os.

A small vertical boiler by Tangyes Ltd., about 4HP, 2ft 3in diameter x 4ft high is lying on its side about 10 feet to the north of the incline line just below the turntable.

The boiler from the alum punt Yaralla is Just behind the court house on the side of the hill.

![](_page_27_Picture_7.jpeg)

Remains of the boiler besides the Alunite Trail.

also is a vertical boiler and is lying on its side, being 7ft 6in long x 5ft 6in diameter, 42 tubes 7ft 6in long x 3<sup>1</sup>/<sub>2</sub>in diameter. The hulk of the Yaralla can still be seen about 8 miles down river in a bay on the left.

<u>Reference</u>: Alum Mountain, Bulahdelah, NSW; by Ted Baker. 2nd Edition 1985, C. Weir

ALUNITE or Alumstone.

Basic sulphate of potassium and aluminium,  $KAI_3(SO_4)_2(OH)_6$ 

Occurrence: As an alteration or replacement of trachytes and rhyolites, in which it forms seams and pockets.

Uses: Produces Alum (hydrous aluminium potassium sulphate), potash (potassium carbonate) and alumina (aluminium oxide).

![](_page_27_Picture_15.jpeg)

Magnificent grasstrees were growing in abundance along the Alunite Trail.

![](_page_27_Picture_17.jpeg)

AGSHV members on the lookout at the end of the Alunite Trail.

Mount Wilson Weekend Friday 13<sup>th</sup> to Sunday 15<sup>th</sup> October 2006

Leaders: Mike and Jenny Green.

Attendance: 17.

Our Mt Wilson weekend began with 15 members arriving during Friday morning and choosing Schoolhouse or Schoolmaster's cottage beds at the Field Studies Centre. Our first garden was Sefton Cottage on Church Lane, where the owner talked to us about The Pavements near Mt Irvine and her pure spring water which we used to fill up our water bottles. We meandered in groups through the bluebells, azaleas, hellebores and clematis, among the dogwoods, eucalypts and maples.

Our next stop was St George's church along the same lane, where we marvelled at the longevity of most of the inhabitants of the graveyard, and rested near the tree ferns.

Over the road were the magnificent Bebeah Gardens, where the proud owner chatted to us about his projects. A small group of us ambled through the azalea hedges, and moon gate, and down to the "lake", back to the quaint chapel with its murals, across the parterre, past sweet smelling lilacs, and up to the giant oak. The members were impressed by the 'sculptured'

![](_page_28_Picture_6.jpeg)

Proud owner of Sefton Cottage gardens, Lisa Gow, explaining all about the gardens.

![](_page_28_Picture_8.jpeg)

Sculptured Azalea gardens near the house.

look of the azaleas, the extensive banksia rose along the house front and a particularly fragrant rhododendron. The owner had been disappointed when the planned film 'Eucalyptus' was shelved, as his garden had been chosen to represent Kew Gardens.

After happy hour in the courtyard and dinner many of us settled down to Midsommer Murders (in the ABC cottage!)

On Saturday at 9am we walked from the Centre to du Faurs Rocks with its circular weathering patterns and views, descended to China**man's Hat, and proceeded along the under cliff** walk, with its impressive overhangs, mosses and ferns. There were some drawings on the walls of uncertain origin. Three people chose to extend the 90 minute walk with the diversion to Pheasant Cave. After morning tea, we headed off to Merry Garth Garden, known for its rare plants. We admired standardized wisterias, frosty elm, Japanese maples, and gigantic snowball bushes; while some of us took advantage of the Open

![](_page_28_Picture_13.jpeg)

Cliff face under which under which you pass when following the du Faurs Rocks walking track.

Day sale of cakes and preserves. Keen to spend longer there, we shared a table on the terrace for sausage sandwiches. We all hoped to win the raffle prize, a flower watercolour painted by the owner, Libby Raines, who is also the trustee of the Study Centre.

Later in the afternoon we were in pursuit of a rare fern on the circular Waterfall Walk. Before heading back for happy hour we viewed The Loft, part of Chimney Cottage B & B, where Tony and Halina were staying.

After dinner, four members enjoyed an astronomy evening, organized by Sydney University at Cathedral of Ferns reserve. Several large telescopes were manned by enthusiasts, focusing on various star clusters.

Sunday morning began with a surprise treat of massed boronia, discovered by Barry and Elaine on a firetrail off Mt Irvine road. The photographers were kept busy, as there was plenty of Victorian Xmas Bush as well. Five of us decided to explore a lesser known garden in this area - Carisbrooke. The owner graciously showed us inside the house, built in 1939 with on -site timber. There were some lovely period fea-She escorted us through gardens surtures. rounded by sycamore rustic fences (to keep out wallabies) and peppered with stone features rescued from historic Sydney sites such as Pyrmont Bridge, and the cupola of the Grand Synagogue. An autumn visit was recommended as well.

On our return to Mt Wilson, some members could not resist the temptations on offer at

![](_page_29_Picture_5.jpeg)

Beautiful native orchards were abundant throughout the rainforest walk at Merry Garth gardens.

![](_page_29_Picture_7.jpeg)

Turkish Baths (1880<sup>'s</sup>), now a museum.

the community hall-morning teas, cakes, preserves and lemon butter (lemons from Lyndhurst Park near Mt Irvine). After lunch, the history buffs fronted up to the Turkish Bath museum, in the grounds of Wynstay (patrons of the Wynne Art prize). The blue and white toilet bowl and gorgeous painted windows were stand outs. Commentary was fleshed out with a great collection of photos, including Withycombe, with its Patrick White connections. Glenda and Ross had told us of the beauties of the Yengo Sculpture Garden, so a big group of us toddled around happily gobsmacked by the oldest rhododendrons in Australia, a humungous fir tree with multiple trunks (16), and of course the bronze statuary sprinkled throughout the many acres. A friendly hostess gave us a guick potted history for the ramble, pointing out the links with the Sydney Botanical Gardens, and the Newcastle Merewether family. There were photographic opportunities at every corner; a sensory feast shared by none other than Pip and Dick Smith who happened to have dropped in. Other members of the group visited the outstanding gardens of Windyridge and Nooroo.

Dinner had to be streamlined to accommodate watching Operatunity. Next morning we farewelled the Study Centre with its waratahs, azaleas, irises, and kookaburras.

We were lucky to have a weekend at a height of 1000 metres, as those on the "plains" below suffered a heatwave. Mt Wilson village is an absolute gem. We must have an autumn visit some time. Thanks to all for a convivial three days.

Report by Mike & Jenny Green.

### Tanilba House Visit Sunday 29<sup>th</sup> October 2006

Leader: Jan Harrison.

Attendance: 20.

A nice group of 20 members and friends met at 10:30 at Tanilba House. The weather was a bit doubtful but improved as the day progressed.

We started our visit with a Devonshire Tea - scones straight from the oven!

The owner Helen Taylor, gave a short talk on the interesting history of the house. We were then free to explore the house and garden.

The first stone in the house was laid by convicts in 1830 for Lt. William Caswell. The house has half metre thick walls, high ceilings, archways and a resident ghost.

The house has imposing views over Tanilba Bay. In 1980 the NSW Government imposed a permanent conservation order on the house and its elaborate stone Gazebo known as The Temple.

During the visit we were entertained by solo guitarist Brian Horrey much to the delight of one of the resident dogs. Charley, the Long Billed **Corella wasn't as friendly as he made out and a** few people nearly lost a finger.

![](_page_30_Picture_9.jpeg)

Enjoying a superb Devonshire Tea at Tanilba House.

![](_page_30_Picture_11.jpeg)

Rhacopteris ovata beautifully preserved in tuff.

![](_page_30_Picture_13.jpeg)

Boardwalk along the shore of Tanilba Bay.

We had lunch in a pleasant picnic ground at nearby Tanilba Point, and then did a bit of fossil hunting. One piece of rock previously examined was split open to expose beautiful specimens of *Rhacopteris ovata*, a fern of Carboniferous age.

Then it was on to the Tilligerry Habitat Nature Reserve where we undertook a very pleasant walk through bush and boardwalk tracks. The beach along the shore of Tanilba Bay was beautiful as the day by this time was sunny and really ideal.

All in all, a pleasant, varied day.

Report by Jan Harrison.

Merewether to Glenrock Walk Saturday 18<sup>th</sup> November 2006

Leader: Ron Evans.

Attendance: 12.

The outing commenced with Ron giving a brief talk on early history and providing a 'hand-out' for future reference.

Early History - A Brief Explanation.

Glenrock Lagoon is possibly the site of the first coal discovery in Australia. Old convict mine workings in the area were accidentally discovered during World War II. In one of the mine workings, a huge tree trunk was discovered by the miners. Attached to the trunk were chains, ball and chains and handcuffs used to secure **convicts working in the so called "rat holes."** 

On Burwood Estate (owned by Dr. Mitchell), Burwood Colliery went into production in 1851. Dr. Mitchell soon expanded the colliery at Glenrock by constructing a railway line to the Port of Newcastle to transport its coal. Two tunnels were dug through the cliffs under the present day Merewether Heights. The tunnels were used for many years by hikers and picnickers to Glenrock Lagoon before deterioration in their condition caused them to be sealed at their entrances during World War II.

![](_page_31_Picture_7.jpeg)

1990's excursion to Merewether with the tunnel entrance that was next to the present day baths.

![](_page_31_Picture_9.jpeg)

Looking North along Smelters Beach from the Glenrock Mine. No. 2 tunnel can be seen on the right.

![](_page_31_Picture_11.jpeg)

The 'Coffee Pot" chugs past the bluff at Merewether as it travels north from Glenrock.

The second tunnel came out of the cliff just behind the amenity block at Merewether Baths. A small steam engine called the "Coffee Pot" was used to haul coal along the line. The "Coffee Pot" was specially modified (vertical boiler, altered chimney, cut-down cabin, driver one end and fireman the other end) so it could pass through the tunnels at Merewether.

About 200 m from the tunnel behind Merewether Baths were located coke ovens owned by the Newcastle Coal and Copper Company. They supported another industry in the early days, a smelter works. Dr. Mitchell who owned the Burwood Estate, gave lease of some of his land to the Newcastle Coal and Copper Company. Their smelter works was situated in Murdering Gully (not far from the second tunnel exit) on the present day Hunter District Water Board property adjacent to "Smelters Beach" (once called the Long Beach) as it is known today.

In the 1860's the company failed because of high transportation costs of the ore and poor smelter placement. As a result, the lease fell back into the hands of Dr. Mitchell and he subsequently established the Burwood and Newcastle Smelting Works. These works also quickly failed as the ore used came from the Currowang Mine at Goulburn in which Dr. Mitchell had an interest. The ore deposit only lasted from November 1866 to May 1867, a period of 6 months.

Mitchell continued to lease portions of the Burwood Estate incidentally contributing to the development of the Newcastle District. In 1866, the first tannery in Newcastle was established at Flaggy Creek as well as the Burwood Pottery and the Burwood Fire Clay and Brick Works.

### Geology.

The Newcastle coastal cliff section from Nobby's to just south of Catherine Hill Bay (some 35 km) affords magnificent exposures of the Newcastle Coal measures of the Permian Period. The late Professor Edgeworth David stated the exposure is probably the finest of its kind in the world. The cliffs in places are over 60 m in height. Just south of Merewether Baths is to be seen an excellent section going from the Yard Seam at sea level to the Dudley Seam (8 - 9 m above); then the Nobby's Seam (12 m above) overlain by about 15 m of Nobby's Tuff. Then follows the Victoria Seam overlain by coarse Merewether Conglomerate showing current bedding. Plant fossils are to be found in shales associated with the coal.

![](_page_32_Picture_5.jpeg)

Position of the first tunnel can be seen in the cliff south of Merewether Baths.

![](_page_32_Picture_7.jpeg)

Cone-in-cone structures.

South of the rock platform can be seen a normal fault which has a throw of about 4.5 m.

Cone-in-cone structures are to be found in a shale band just below the Dudley Seam. The cones are not common and are composed usually of calcite fibres (also siderite or gypsum). It is generally believed the cones are produced by pressure which causes solution around growing nodules or concretions of limy material. The specimens to be seen at Merewether are excellent examples of Cone-in-cone structures. Many other common sedimentary structures were seen in the cliffs and on the rock platforms.

### Report and Photographs by Ron Evans.

#### References Used:

NASHAR, B. (1964). *The Geology of the Hunter Valley*. The Jacaranda Press.

GROTHEN, J. (1982) *The History in and about Glenrock Lagoon.* Knight Bros. Printers Pty. Ltd., Newcastle. Conybeare, C. and Crook, K. (1968). *Manual of Sedimentary Structures.* Government Printing Office, Canberra.

![](_page_32_Picture_15.jpeg)

Intra-formational folding in tuff seen near Glenrock Lagoon.

### Christmas Social Evening Saturday 9<sup>th</sup> December 2006

Organisers: Social Committee.

Participants: 32.

A few less members attended this years festive evening. However, the standard of food prepared by members of the Social Committee was exemplary, exceeding last years magnificent effort. Apart from the usual cheese and 'bikkies', this year we were treated to freshly prepared and cooked chicken and vegetable mini-kebabs, sausage rolls, palmiers, mini-quiches and tasty dips.

The main meal of cold meats and freshly prepared salads followed washed down with punch or something stronger. Fresh fruit salad, pavlovas, tarts and ice cream followed.

While we were allowing our meal to settle, the lucky door prizes were drawn. All members had placed a small present on a table and as each persons number was drawn, they had the pick of the table. Much consternation was to be had choose an unwrapped present or gamble on a wrapped mystery one.

While this was happening, small bundles of chocolates and freshly made 'sweeties ' were passed around.

All in all, a wonderful feast. A special thanks was extended to our hosts for the use of their home, as well as social committee members who had made and prepared such wonderful food.

![](_page_33_Picture_8.jpeg)

![](_page_33_Picture_9.jpeg)

Good friends catching up on the news while waiting for the meal to be served.

![](_page_33_Picture_11.jpeg)

Vic providing a fanfare to 'officially' announce dinner.

![](_page_33_Picture_13.jpeg)

'Dinner is Served!"

Decisions, decisions, decisions!

Report by Ron Evans.

## Tasmania - Geological Safari 2006

Sunday 19th February to Sunday 12th March 2006

Safari Leaders: Brian England and Barry Collier.

Participants: Brian England, Dorrie England, Barry and Elaine Collier, Vic and Leonie Mills, Jan Harrison, Carol Lawler, John Eccleshall, Lyn Monkley, Tony and Halina Turnbull, Terry and Laurel Kingdon.

### Introduction

Fourteen members of the society attended this, our third extended trip away from mainland Australia. Eight had opted to stay in cabin/motel accommodation while six would be camping in their own vans. The program, put together by Barry Collier, would be flexible enough to allow participants to do their own thing on many occasions and with relatively few base camps the program could be altered to take advantage of good weather and hopefully avoid poor conditions.

I found when trying to put together a field guide that there was no simple general description of Tasmanian geology anywhere! Plenty of in-depth papers on individual areas and mines were available in the literature, but most were far too detailed for our group. So we would all have to learn as we went. Information on walking trails was virtually non-existent, except for the major walks, and that we were able to find some exceptional spots was purely down to chance or the prior knowledge of several of our group who had been to Tasmania before. Even the simplest tourist facilities, like picnic areas with tables and seats were rare and we were amazed by the almost complete lack of roadside lookouts to take advantage of magnificent views, in a state renowned for its scenery, and billed as such by the tourist organisations. The one thing that did please us was the complete lack of graffiti, and right across the island not once did we find a defaced sign or information board.

To keep this account to a manageable length, only those activities attended by the majority of the group will be covered.

### Background Geology

For an area with such a range and complexity of geological features, it is nigh on impossible to give a short overall account without lapsing into inaccuracies. The following attempt has been summarised from a number of sources, some of which are referenced at the end of this article.

Tasmania forms a small part of the Palaeozoic Tasman Fold Belt, which continues south to Antarctica and north through eastern Australia. The island can be divided into two quite distinct regions known as the Western and Eastern Terranes, separated by a sub-parallel group of northnorthwest trending faults known as the Tamar Fracture System.

In the Western Terrane, Cambrian sediments and volcanics accumulated in troughs underlain and separated by Pre-Cambrian basement rocks, mainly guartzites, which now make up much of the West Coast region and outcrop on the north coast at Rocky Cape. The troughs developed through stretching and rifting of the Pre-Cambrian basement, the largest being the Dundas and Dial Range Troughs. Both contain early shallow water deposits, including thick dolomite beds, followed by deeper water sediments (submarine mass flows) and basalts as rifting continued. Thrust faults also developed along the basin edges and are the location of discontinuous serpentinite bodies. Continued crustal extension was probably associated with subduction along the future site of the Tamar Fracture System and during this time a considerable thickness of subaerial and subaqueous volcanics accumulated along the eastern margin of the Dundas Trough.

Known as the Mount Read Belt, these volcanics contain one of the most highly mineralised provinces of its type in the world and are host to numerous huge base and precious metal deposits (including Rosebery and Hellyer) formed on that ancient sea floor by hydrothermal vents ('black smokers') during the volcanic activity.

In the Late Cretaceous, large areas were uplifted as subduction ceased, causing deformation of the older rocks. This was followed by the deposition of up to 2.5 kilometres of alluvial fan and shallow marine sands along the margins of the Pre-Cambrian rocks. Ordovician and Early Silurian carbonates, then Lower Silurian to Lower Devonian siltstone and sandstone followed, associated with a total subsidence of around 2.5 kilometres. The Lower Devonian and older rocks were then deformed by folding and faulting during the Tabberabberan Orogeny (mountain building) of eastern Australia. This was followed in the Mid-Palaeozoic by the intrusion of granites associated with scheelite-rich skarns (King Island), cassiterite-stannitepyrrhotite carbonate-replacement deposits (Mount Bischoff and Renison Bell), silver-rich lead-zinc veins (Zeehan-Dundas) and some gold occurrences.

East of the Tamar River the oldest rocks are Ordovician and Devonian quartz-rich turbidites (submarine mass flows) derived from the southwest and deposited in a basin along strike from the Melbourne Trough in Victoria. These rocks are the time equivalent of the shallow marine sediments in the west and were deformed around the same time. Extensive Mid-Palaeozoic granites (older than those in the western terrane) were emplaced in these folded rocks at shallow depth and are associated with large tin and tin**tungsten vein deposits at Aberfoyle and Storey's** Creek.

Tasmania had now become a geologically stable land mass (craton) and was subjected to extensive erosion. Then subsidence along the Tamar Fracture Zone initiated the Tasmania Basin in which up to 1.3 kilometres of Late Carboniferous to Triassic rocks (the Parmeener Subgroup) was deposited. Also during the Late Carboniferous to Early Permian, considerable volumes of glacial debris were deposited. During the Triassic, deposition continued with the formation of thick coal measures, now being mined at Fingal with over 9 million tonnes of bituminous coal produced to date.

Large volumes of dolerite (the intrusive equivalent of basalt) were intruded into rocks of the Parmeener Subgroup around 174 million years ago over an interval of less than 20 million years during the Middle Jurassic, forming a number of sills between 200 and 500 metres thick. Dolerite surface exposures now cover almost half the area of Tasmania and the total amount of dolerite intruded has been calculated at 5,000 cubic kilometres! There are close similarities between the Tasmanian dolerite and the Jurassic Ferrar Dolerite in Antarctica, suggesting a common origin, but the intrusions did not reach Victoria. The dolerite intrusions heralded a period of crustal extension preceding the breakup of the Gondwana supercontinent.

Sea floor spreading between Australia, Antarctica and New Zealand began in the Cretaceous. This created the Tasman Sea between Australia and New Zealand and ceased 57 million years ago. However, spreading between Australia and Antarctica continued until complete separation had taken place around 35 million years ago in the Oligocene. Bass Strait had formed in the early Cretaceous as Australia and Antarctica began to separate.

Most of the present landscape was determined in the Tertiary, with earlier drainage systems swamped by basalts that formed extensive plains. These basalts are now the source of fine zeolite specimens at numerous localities in the central and northern districts. Several episodes of Pleistocene glaciation have also had considerable influence, especially in exposing much of the dolerite and sculpturing many of the most imposing mountains.

### Sunday 19th February

All participants had opted to drive to Sydney and catch the Princes of Tasmania III for the trip across Bass Strait. The terminal was easy to find and most arrived early enough for a cappuccino in the city before lining up for the long hot wait to board.

A wander around the ship before dinner revealed just how big this boat was. There was a well-stocked gift shop, travel centre where tours could be booked, theatre, reading room, a huge restaurant and large lounge areas. There was also a coffee shop serving great cappuccino and a delicious lime-lemon tart served with lashings of thick King Island cream. Meals were superb. Entertainment was provided in the form of movies and talks by National Parks staff, although no mention was made of the geology. Fortunately it was a smooth crossing and the 22 hours it took to reach Devonport seemed to just fly by.

### Monday 20th February

Barry and Elaine were up at 6am and out on deck to see sunrise over Flinders Island, silhouetted against a rusty somewhat cloudy sky. But for the rest of us the cabins were too comfortable to brave the early morning cold.

We were all off the boat by 11:30am and drove directly to Launceston, our base camp for the next three nights. The campers found themselves in the Treasure Island Caravan Park, right

![](_page_36_Picture_6.jpeg)

Grubb Shaft Gold and Heritage Museum, Beaconsfield.

beside the Expressway and not that quiet. The others were on the opposite side of the city at the Alanvale Apartments in Newham. It was a pity we were so far apart but there was nothing else we could do at the time of booking. Seems we were in the middle of the high tourist season!

With an afternoon free, Dorrie and I shot up the West Tamar Highway to Beaconsfield about 40 minutes north of the City to check out the Grubb Shaft Gold and Heritage Museum. The old Tasmania gold mine was totally derelict when we last visited Beaconsfield in 1972, but now a modern gold mine was in operation on the site of the old Hart Shaft, its striking headframe visible as soon as we entered the main street. At the mine, we found the ruins converted into one of Australia's finest mining museums. We decided this would be a must see for the group.

### Tuesday 21st February

A fine and pleasant day was marred only by the revelation that Barry and Elaine would have to leave the group to let Barry find treatment for a bad tooth that had been troubling him for weeks. With a three month waiting list for emergency dental care, Barry was fortunate, through relatives in Devonport, to find a dentist in Burnie, 140 kilometres to the northwest, who would see him. The rest of the group, under **Barry's direction, headed out to the east to** Mount Barrow.

Barry had placed Mount Barrow, a 1413 metre pile of columnar dolerite to the east of Launceston, on the program as a dramatic start to the trip and that is precisely what it turned out to be! It was a 28 kilometre drive along the A3 (Tasman Highway) and then 12 kilometres of fair dirt road which presented no problem, especially with the lack of timber trucks. However at the base of the mountain we pulled up in the middle of the road and just stared in disbelief at what lay ahead! An immense scree slope of dolerite boulders seemed to cover the entire northern slopes of the mountain, save for a few hundred metres of columnar dolerite at its peak. And the road, just headed into the base of the scree, soon becoming barely wide enough for one vehicle and switching back and forth in impossible turns as it headed up the dizzying slope towards the saddle. God help us if there was someone coming down!

At the top the view was astounding. Although not particularly high, Mount Barrow provided uninterrupted views to all points of the compass and the weather was perfect - just enough cloud for pleasing photographic effects. All around us dolerite outcrops dominated the foreground, providing interesting mounds and pinnacles through which to frame the more distant views. Barry had told us of a walking track around the edge of the cliffs, but no trace of it could be found. Above the car park the mountain's highest pinnacle was the site for a communications base and the highlight of the day was being permitted by maintenance engineers to climb the steel stairway to the base of the buildings at the edge of the cliffs for a stupendous view out to the east.

Most of the day was spent on Mount Barrow; such was its visual splendour. But there were other things to see, so after lunch we beat a hasty retreat from the summit to the picnic area at the base of the mountain, hoping like hell that no-one was coming up.

Taking a different route back to camp, we turned west onto B81 at Scottsdale and continued on to the Bridestowe Lavender Farm. It was not the right season and there was nothing to see but bare fields, but the cappuccino and ice cream was well worth the stop and the atmosphere was

![](_page_37_Picture_4.jpeg)

Mount Barrow - spectacular dolerite outcrops, the result of differential weathering.

# pleasant and relaxing after the morning's excitement.

Back on B81, a little further west we came upon one of the greatest hazards on the narrow winding Tasmanian roads, timber trucks! They were tediously slow up hills and impossibly fast down, and there was no way around them. At the poorly marked Lillyvale Falls picnic area we pulled in for a break and took the short walk to the falls. However with no rain so far this year the falls were quite disappointing. Darkness was rapidly approaching as we headed back to Launceston.

#### Wednesday 22<sup>nd</sup> February

It was another fine pleasant day with broken high cloud; a good day to explore the attractions of the Tamar Valley to the north of Launceston. But, with no recent rain, the countryside was brown and dry, a far cry from the velvet green we had seen on previous trips.

At Beaconsfield we turned left into West Street, site of the Grubb Shaft Gold and Heritage Museum, housed in the ruins of the original Grubb Shaft and boiler house buildings erected in 1904/05 using locally made bricks. Immediately behind the Museum the new headframe of the current gold mining operation thrust boldly into the sky, symbol of renewed prosperity for the town and as much a work of modern art as a mining facility.

![](_page_37_Picture_11.jpeg)

Some of the many exhibits to be seen in the Grubb Museum.

The Museum is one of the finest of its type in Australia, housing a wealth of exhibits and interactive displays, as well as a sunken garden of endemic species established in 1984. It is operated by the West Tamar Council with the assistance of a group of eager but unpaid volunteers. It is divided into several rooms emphasising different themes, and we found a fantastic collection of steam and rural engines (including a farting pump), life and times displays, a mine pump model, old telephones, local timbers, and yes some rocks, including quartz containing quite coarse visible gold from the old Tasmania mine. There was also a 1900's mine office replica, woodworking tools, and a superb 3D model of the old mine showing all the shafts and levels just beneath our feet. Moving on we found a working model of the 1872 Ilfracombe Iron Blast Furnace and a water wheel operated stamp battery (yes, it worked) made in 1862 by the Vivian Foundry at Castlemaine in Victoria. The nearby store and workshop contained a fantastic array of strange old tools and gadgets. Outside we found an authentic miner's hut, an area for gold panning, immense pump relics raised from the Hart Shaft during its refurbishment, and a viewing platform overlooking the new mine.

Alluvial gold was found in the area in 1869, but the Tasmania Reef wasn't found by the Dally brothers until 1877. This led to more than 50 companies taking up options in the area, with the largest and most promising being the Tasmania Gold mine. Between 1877 and 1914 it produced 26 tonnes of gold and reached a depth of 461 metres in the Hart Shaft. Water was always a serious problem and eventually beat the Tasmania Company. Towards the end, three gigantic coal fired steam pumping engines were lifting 36,000,000 litres of water from the mine every 24 hours. But the mine was always destined to live again. Prior to the current operations, drilling revealed that the remaining ore body would yield at least as much gold as the old mine and, after an investment of \$AUS95 million over 15 years, the first ingots were poured on 28th September 1999. As at 30th June 2005, 580,000 ounces of gold had been produced and around 285,000 ounces remained to be recovered. At the time of our visit the decline (from the bottom of the Hart Shaft) was down 1100 metres and \$AUS1.2 million in gold was being recovered each week. A video playing in the life and times display outlined the history of the mine and its current operations. I was impressed with the mine and its environmental and safety awareness but of course we could not know that just a few weeks after our visit Beaconsfield would hold the World in suspense and then awe after a rock fall triggered by an earthquake killed one miner and trapped two others underground for 14 days. Their survival and nail -biting rescue will become legend.

It was a fantastic place and it took some considerable encouragement to get the group away, but eventually the aroma of coffee from the little shop Dorrie and I had found on Monday just could not be ignored. We had them run off their feet for a while but I think they were glad to see us! Then we were off to the Seahorse Farm on Inspection Head Wharf at Beauty Point only a few kilometres further north.

We arrived just as our pre-booked tour was leaving and it took some effort to get the whole group to move fast enough so as not to miss out. Ushered inside, we re-assembled in a small room lined with wall-mounted tanks housing a variety of endemic as well as imported seahorse species. They were tiny, sometimes hard to see amongst the weed, but fascinating none the less. We were then taken through to the breeding and nursery tanks which produce seahorses for the World aquarium and medicinal markets. But, probably more fascinating than any other exhibit was the lone cuttlefish, just hovering there in its huge tank, watching us, wondering what we were and putting on a dazzling display of colour change, revealing its inner thoughts in a language only a cuttlefish could understand. Intelligent animals cuttlefish - more so than some humans! After watching a documentary on native seahorses we collectively decided we'd had enough and headed off for the park at Beauty Point where we actually found some tables and seats on which to have lunch.

Leonie had arranged by phone for the group

to tour the Waverley Woollen Mills, so we sped south in an attempt to reach the mills, just outside Launceston, in time for the last tour of the day. The shop was probably the most interesting part of the tour, with a lot of fine things for sale. Inside the mill though, the noise was excessive, the processes very repetitive, and the guide spoke with a lisp through a rather inadequate microphone. The looms were fascinating to watch though.

By the time we reached camp it was raining, and continued to do so for most of the night. Seems we'd broken the drought. Barry and Elaine had an eventful night. The canvas on their new camper trailer leaked, right over Elaine's bed!

### Thursday 23<sup>rd</sup> February

It was time to move camp to our next base at Wynyard on the north coast. Again everyone would go their own way, meeting up at Sheffield, the town of murals, for lunch in the shadow of the magnificent Mount Roland. In an effort to boost flagging tourism, professional artists have been commissioned to cover every conceivable blank wall in town with colour, depicting the re**gion's pioneer history and local scenic attrac**tions. New murals are added each year during the annual National Mural Festival, and the old ones are continually restored to ensure their stunning visual impact is not lost. Some are so realistic you could almost walk into them and imagine yourself back in time to a more leisurely

![](_page_39_Picture_4.jpeg)

One of the many murals adorning the walls of buildings in Sheffield.

age. Just out of town we began to notice the rampant blackberry vines covering fences and anything else that happed to get in the way. They were loaded with fruit - big juicy berries! Probably sprayed we thought, and so left them alone.

Between Penguin and Wynyard Dorrie and I pulled into a series of coastal geological attractions, pinpointed by large detailed signs at the side of the road as part of a documented geological trail. There was actually parking near the signs too, allowing anyone interested to alight and take a short walk and learn something of the geology of the area. Also we began to notice other roadside signs, roughly scrawled and advertising blackberries for sale, \$4 a carton. Hmmm, they were edible after all, so we made several stops and filled everything we could lay our hands on with the succulent berries. This would be repeated right around the island, but we never tired of them.

At Doctor's Rocks just east of Wynyard, another of the roadside geology signs mentioned that coarse gold could be panned from sand in cracks in the rock platform. The gold was being eroded from a rich quartz vein offshore. Damn! No gold pan, and the hub caps on the Forrester had too may holes in them!

At Wynyard we were again separated into the campers and those staying in motels, those with vans staying in the Leisure Ville Holiday Park out of town on the Old Bass Highway and the others at the Waterfront Wynyard Inn, also on the Old Bass Highway but in town and alongside the mouth of the Inglis River. For those at the Inn, the small fishing fleet had their base only a few hundred metres upstream so we had a local source of fresh fish!

### Friday 24th February

We looked outside to see a rather gloomy day, with low cloud and a strong northerly wind. Still the forecast had been promising the night before, so we made an early start for Cradle Mountain, hoping things would improve, and headed off in convoy down the Murchison Highway.

The hills south of Wynyard support a thriving cattle and dairy industry and just out of Yolla we were brought to a sudden halt by not just a few head of cattle crossing the road, but the biggest herd any of us had ever seen! It took half an hour for them to amble across into a holding paddock and in doing so they left behind the biggest pile of poo, which we then had to drive through! Despite its designation as a highway we found the Murchison very narrow and winding, and quite a challenge for trucks and vans.

South of the Waratah turnoff we turned east along a relatively new road which eventually led to Moina through the thickly forested Black Bluff Range, but we would turn south to the Park at about the half way point.

At the Park headquarters we stopped to collect our National Parks passes for the remainder of the trip. There was a large visitor centre here, with a copious supply of books and maps as well as very comprehensive displays on the ecology of the region. From here we took the free shuttle bus down to the edge of Dove Lake, 7 kilometres from the Visitor Centre, to the start of the Dove Lake Circuit track.

![](_page_40_Picture_4.jpeg)

Lake Dove with Weindorfers Tower and Cradle Mountain in distance. Ballroom Forest far right.

![](_page_40_Picture_6.jpeg)

Boardwalk behind the boat shed Lake Dove. Little Horn on left with Weindorfers Tower and Cradle Mountain in the distance.

The intention was for most of the group to do a fairly quick circuit around Dove Lake, following the boardwalk which hugged the shoreline, but there were so many interesting distractions, good and potentially great photo opportunities, that it took almost 5 hours to cover the 6 kilometres. At Glacier Rock we were able to examine the basement rocks of the region, Pre-Cambrian banded quartzite tilted almost vertically and deeply grooved by the grinding action of the glacier which carved out Dove Lake and shaped the surrounding mountains during the Pleistocene Ice Ages (26,000 to 7,500 years ago). Cradle Mountain was always in the background, we knew, playing a tantalising game of hide and seek behind cloud with us but never really showing itself. Beaches, forest, and the lake itself provided fantastic foreground, but when everything else was just right the mountain itself refused to co-operate!

We stopped for lunch at a small beach just beyond the Ballroom Forest. Sitting on a log facing Cradle Mountain we had the best vantage point, and sure enough after waiting and waiting the cloud cleared enough for the peaks to show through, but only momentarily. Conditions improved the closer we got to the Boat House and eventually the mountain stood in all its rugged glory against a clear blue sky! The others had seen enough by this time and seemed a bit footsore, so returned to the Visitor Centre on the shuttle bus. Determined to get some good shots I raced back to Glacier Rock and the beach below. With the cloud gone, it was now possible to clearly see the boundary between the vertical columns of Middle Jurassic dolerite forming the craggy peaks and the underlying flat beds of Late Carboniferous to Triassic sediments (Parmeener Group) the sill had intruded. Well rewarded, I just managed to catch the last shuttle back to the cars.

However when I arrived back, no car! I'd run short of petrol on the way down and while waiting for my return Dorrie had gone off, somewhere, who knows where, to find some. I'd tried to blame the shortfall on the extra weight of Lyn and Jan in the back of the Forester on the way down, but that just didn't wash and I had to admit it was my fault! Anyway the car eventually returned, refuelled. Dorrie reported that she'd found a nice coffee shop, as well as petrol, at the Cradle Information Centre just outside the park so we returned there for a cappuccino before returning to Wynyard.

Barry and some of the others stopped at the tourist display at the Fossey River Reserve and again at Hellyer Gorge State Park where they took a short walk down through impressive rainforest to the bottom of the gorge.

### Saturday 25<sup>th</sup> February

The forecast today was none too promising, with very low cloud cover and rain periods expected. To add to our dismay, there was so much haze that it was impossible to see clearly for more than a few hundred metres.

Today it was Elaine's turn to seek medical attention, to remove stitches from her arm after having a melanoma removed just before the trip. She had managed an appointment with a local GP at 10am but in the meantime Barry had discovered a local farmers' market and so after a few mobile phone calls we all assembled there to sample the local produce, with light rain now falling from a dark sky.

With Barry and Elaine off to the surgery the rest of the group headed out to Table Cape, a

![](_page_41_Picture_7.jpeg)

Safari members at lookout on Table Cape.

magnificent example of an eroded volcanic neck 12-13 million years old. The remaining edifice is the remnants of a lava lake which filled the crater to form horizontal layers of teschenite (a basaltlike rock), the tuffs and breccias of the old crater walls having been eroded away by the ocean. The view back towards Wynyard from the lookout at the edge of the cliff above the ocean was spectacular and we also took the cliff-edge walk to the lighthouse, but found no other good view points. Barry and Elaine had arrived by the time we got back to the cars and had a lecture on Tasmania's dolerite and its significance.

From Table Cape we took the Tollymore road back to the coastal highway and then continued west to Rocky Cape National Park, pausing on the way at Sisters Beach where, apart from tightly chevron folded Cambrian basement rocks containing auriferous quartz veins in the rock platform at the boat ramp, there was nothing to see or photograph.

At Rocky Cape we headed for the parking area at Burgess Cove, from where there were expansive views to the east along the rugged quartzite headlands, with Table Cape jutting out into Bass Strait on the horizon. It is here that the Pre-Cambrian quartzites which make up much of the west coast region meet the sea. The rock platform in the foreground was stained bright pink by lichen, providing a great photo opportunity in finer weather.

After a quick lunch on the foreshore rocks most people headed off on the short but moder-

ately steep walk to South Cave. This cave is of great archaeological significance and is one of the most intensively studied aboriginal sites in Tasmania. It was first occupied around 8,000 years ago but had been abandoned by 3,800 years ago after it had become filled with eating and toolmaking refuse. There certainly wasn't much room inside the cave, a large V-shaped cavity in the cliff face shrouded by trees and formed by the collapse of large quartzite blocks between steeply inclined bedding planes, probably due to marine erosion when sea level was significantly higher. There were some good views to be had to the east from the track, with rugged quartzite foreground, but the weather had turned out guite lousy and by the time we headed back to the cars it had begun to rain.

We could do little more here in such inclement weather so under Barry's direction headed off to Dip Falls, on the Dip River south of Mawbanna. Here we took an ancient steep concrete stairway to the base of the falls through magnificent rainforest, although it was unusually dry underfoot. At the falls we found the most spectacular exposure of Tertiary columnar basalt we had yet seen on the trip and with very little water in the river the structures stood out very clearly. Back on top we crossed the river and found a new viewing platform looking directly down onto the top of the falls. Here was a quite different and even more spectacular view of the tops of the basalt columns spread out like a honeycomb in the bare river bed. Before long it had started to rain again, so we headed back to camp.

![](_page_42_Picture_2.jpeg)

Dip Falls. Note the beautifully defined columns of Tertiary basalt that forms the fall-making strata.

![](_page_42_Picture_4.jpeg)

Paper mache sculpture displayed at Creative Paper, Burnie.

#### Sunday 26th February

Today was to be spent in the Tarkine wilderness, but there was washing and shopping to do so it was pronounced a do as you like day. Barry and Elaine headed for Creative Paper in Burnie, a fantastic gallery of paper mache sculptures, while Dorrie, Jan, Tony and I returned to Rocky Cape to photograph the scenery under much better conditions.

Although partly cloudy, conditions on the peninsula were great for photography and we revisited the vantage points of yesterday plus others we had made a mental note of in case we came back. Tony and I climbed the impossible (and now closed) track to the summit above the lighthouse and were rewarded with astounding views and some nice banksias in flower. The track was so steep and rough going down that we made only very slow progress, often with no solid footing we could reach without sitting down in the dust and sliding. Barry had thought it was OK yesterday, but he has much longer legs!

Back at the cars we drove around to the carpark near the lighthouse and took the 0.75 kilometre almost level walk out to the North Cave - a somewhat larger cave of similar origin to the South Cave and first occupied by Aboriginal people around 5,500 years ago after they'd filled up South Cave with their refuse. The cave was not accessible due to current archaeological work but from there it was only a short scramble down to a small rocky cove with interesting rock formations. A quick look at the lighthouse and then it was back to Fossil Bluff for a scheduled geology lecture. On the way out we stopped to strip the blackberry vines of their huge juicy berries at the National Park turnoff. There would be blackberries and ice cream for dinner tonight!

Fossil Bluff is one of the most fascinating geological sites in Tasmania and is well known on the tourist circuit. Whereas on my last visit the only way to reach the headland was by walking through the Golf Course at the risk of raising the ire of the Club owners, it is now directly accessible by road without any fear of being prosecuted for trespassing. At the parking bay my task was again made easier by the presence of a detailed interpretive noticeboard erected as part of the Tasmanian Bicentenary Great Nature Trail.

The rocks exposed by marine erosion here are spread over an immense time scale, with a large time gap (known as a hiatus) between each of the rock layers. In the Late Carboniferous-Early Permian (300 million years ago) a large tidewater glacier perhaps as much as 25 kilometres across flowed from the mountain areas to the west around Zeehan down to the sea near Wynyard. It carved a broad valley and gathered a huge amount of rock debris and when it reached the sea this debris was dropped on the sea floor as boulder clay (now tillite). This build up of debris gradually formed a tidal flat as layer after layer of sediment was deposited in a sequence of sands, silts and clays.

Around the Middle Miocene (22 million years ago) sea level rose and erosion led to the formation of a shallow bay which was colonised by tropical marine fauna. Their remains were washed onto beaches to collect with the sand to form the lower fossiliferous beds in the cliff face. As sea level rose still further the deepening bay became home to a complex ecosystem which included whales, shell-eating sharks and delicate shellfish. At this time a marsupial Wynyardia bassinia roamed the hinterland forests, climbing pines and myrtle in search of food. Its fossil remains found at Fossil Bluff provide one of the earliest records of mammals in Australia. The nature of the vegetation at that time was revealed by fossil pollen grains preserved in the cliff section.

Around 13 million years ago, basalt flows pouring from the Table Cape volcano covered the area and gradually weathered to a dark basalt soil which now caps the Fossil Bluff headland.

With the group eventually assembled we began to explore the geology. The exquisitely preserved shell fossils in the limy sandstone boulders torn from the cliff by wave action were fascinating enough, but the underlying tillite with its large boulders embedded in fine mud-

![](_page_43_Picture_7.jpeg)

Folded meta-sediments form the rock platform at the base of Fossil Bluff. Table Cape in distance.

![](_page_43_Picture_9.jpeg)

Interface between the Miocene Fossil Beds and the underlying Tillite.

stone (once rock flour produced by the grinding action of the glacier) is probably the best example of glacial sediment any of us had seen and made for some spectacular geological photographs. Also intriguing was the interface between the Miocene fossil beds and the tillite, an old erosion surface where a layer of boulders from the tillite had been dropped in place, unable to be carried off as the enclosing mudstone was eroded and washed away. But around the corner, back towards Wynyard, was an even greater surprise. We had chanced on an extremely low tide in the late afternoon and before us was exposed the most fascinating scalloped rock formations spread out across the extensive and flat rock platform. These were thinly bedded siltstones of the Permian glacial period and gentle folding had produced a series of shallow domes and troughs which were now revealed in amazing detail in the strongly obligue light. It was almost dark before we could drag ourselves away!

### Monday 27th February

The day had dawned quite pleasant with just a little scattered cloud. Today we would move camp again, re-establishing ourselves at the copper mining town of Queenstown on the West Coast. We had arranged to meet in Waratah, at the site of the now-abandoned Mount Bischoff Tin mine, once the largest and by far the richest tin mine in the World. It was so rich that in its early years the surface soil was simply dug out, bagged and sent off as concentrate! Discovered by James 'Philosopher' Smith in 1871 during a determined search for gold to boost the State's

![](_page_44_Picture_3.jpeg)

Waratah Falls.

![](_page_44_Picture_5.jpeg)

Abandoned Mount Bischoff tin mine workings.

flagging economy, the mine was established with a capital of \$58,000 and had returned more than \$2 million to shareholders by the time it closed in 1935. Big money in those days! In the primary ore the tin occurred as the oxide cassiterite in pyrrhotite (iron sulphide) bodies replacing dolomite and associated with a network of guartz porphyry dykes which now form spectacular orange -stained outcrops throughout the old workings. At Renison Bell, south of Waratah, the World's largest underground tin mine is currently exploiting similar primary ores but has to crush the pyrrhotite very finely and then use complex gravity methods to recover the tin. At Mount Bischoff, nature had done most of the work in concentrating the tin by oxidising the pyrrhotite and releasing the cassiterite as a fine heavy sand which was then left behind on the surface as everything else was washed away. The story of the Mount Bischoff mine and the man who discovered it makes fascinating reading and I can recommend Nic Haygarth's book 'Philosopher Smith and the Birth of Tasmanian Mining' published in 2004.

I had last visited the old mine in 1971 and found very little had changed since then, apart from a little more vegetation slowly overtaking the old workings. But there were now excellent interpretive signs in the carpark outlining the history and geology, and well-worn tracks led throughout the workings. However, the more dangerous areas, some of which I had explored back in 1971, were now securely fenced off. I had not fully explored the area on that first visit, mainly due to the presence of treacherous bogs caused by heavy rain at the time, but now I stood absolutely astonished at the immense size of some of the holes dug into this mountain, especially the Brown Face, where miners hung from ropes to chip the last of the tin ore from its walls. The workings were a palette of bright unreal colours and provided striking photographic opportunities. However very little of the actual works remain, apart from the massive pillars of the flying fox and a few worn cast iron shoes from the old stamper at the back of Allen's Workings. Heavy black boulders scattered around the site, when broken, revealed bright silvery massive pyrrhotite and some pyrite, but no tin did we find. I had to keep interrupting my investigation of the site and return to the car park as the group continued to arrive in dribs and drabs, but eventually everyone had seen the mine and had its geology explained and there was just time for a quick look at the falls on the Waratah River in town before heading off to Zeehan. Water from these falls was used to power the nearby Mount Bischoff Company mill and reduction works but, although still standing in 1972, these buildings are now just overgrown unrecognisable piles of rotting timber.

Barry, Elaine, John and Carol stayed in Waratah for lunch after finding a good pie shop and gathered fresh vegetables from a local grower before heading off for Queenstown. The remainder of the group would meet in Zeehan, where a very late lunch was had in the little coffee shop in the main street, which also sold local minerals (including some fine crocoites) and serpentinite carvings. Then we had a quick look at the Pioneers Museum, the old Argent mine site near the Golf Course and the famous Tasmanian Smelters before leaving for Queenstown. The sites would be visited again with Barry and Elaine in tow.

The bare hills behind Queenstown were magnificent in the late afternoon sun but there was simply no-where to pull over to photograph or even admire the views. A few well-placed lookouts would have been nice!

![](_page_45_Picture_3.jpeg)

Bare hills behind Queenstown provide a spectacular contrast to the distant Mount Owen .

Again we found the group parted, some staying in the Pioneers Retreat apartments in Batchelor Street, just down from the West Coast Wilderness Railway Station, and the campers at Queenstown Cabin and Tourist Park in Grafton Street on the edge of town.

Despite checking all bookings before I left on the trip, the campers found themselves not expected, but after some initial confusion the vans were squeezed in, John and Carol having to set **up in the owner's backyard! They felt like sar**dines but everyone survived.

### Tuesday 28th February

Today was the day most of us had come to Tasmania for - a ride on the justifiably famous West Coast Wilderness Railway. The line was commenced in December 1894, pushed through impossibly rugged rainforest, and officially opened on 3<sup>rd</sup> April 1897 as the major supply and ore shipping route for the Mount Lyell Mining and Railway Company, operator of the huge Mount Lyell mine. Amid much protest it closed in June 1963, its fate sealed by upgrading of the Queenstown-Strahan Road and the prohibitive cost of maintaining the track and around 40 wooden trestle bridges in a climate which hastened the decay of dead timber. Although its tourist potential was realised even then, there was no money to keep the line maintained. Then on 24<sup>th</sup> July 1998 Tasmanians rejoiced as Mark Vaile, Federal Minister for Transport, announced that \$20.45 million had been allocated to re-build

the Abt railway. In December 2002 the line reopened under the control of Federal Hotels and Resorts after an engineering feat almost as great as the construction of the original line. The full story of the line is told in Lou Rae's excellent book 'The Abt Railway. Tasmania's West Coast Wilderness Railway' available in both hard and soft cover (2003).

I had collected our tickets at the station yesterday just to be sure and put our orders in for lunches, noting the special requirements of some of our group. The weather was cloudy with intermittent showers as we walked down to the station, just perfect for viewing the rainforest through which we were to travel most of the way.

Excitement grew as the little train rattled and swayed out of Queenstown, hauled by the old **Mount Lyell and Railway Company's Abt No. 3** steam engine and following the valley of the Queen River.

At Lynchford, site of an early but quickly exhausted gold strike, the train pulled in to allow us to explore the reconstructed station buildings and Queen Hotel. There was also an opportunity to pan for gold and Carol proudly re-boarded the train clutching a little bottle containing a few specks. Others had gone off into the grass to collect blackberries, but also brought back on board a few unwelcome hangers-on. The little train continued on through magnificent rainforest, the way barely wide enough in places for it to pass. Frequent crossings over steep gullies provided fantastic views down across dense patches of the giant manfern *Dicksonia antarctica* rimmed by dense myrtle forest. On adjacent steep hillsides the dreaded horizontal scrub took over. This vine-like plant sends up a dense thicket of slender shoots to a height of 6 metres of more, which then fall over and sprout new runners time and time again. So anyone fighting their way through it may find themselves 10 metres or more above ground if they happen to fall through it.

The engine soon began to feel the strain as it began to climb the steepest section of track towards the summit at Rinadeena. Even with the central rack rail engaged it came to a momentary standstill several times as it fought to build enough steam pressure to continue on. At one stage we thought we might be walking to the summit! But as it struggled on, slower than walking pace, we had an excellent opportunity to study the many small ferns in the undergrowth. At Rinadeena we stopped briefly to take on water and then began the steep downhill section towards Dubbil Barril, stopping briefly for spectacular views down the King River Gorge.

![](_page_46_Picture_6.jpeg)

Abt No. 3 steam engine that pulls the train on the trip from Queenstown to Dubbil Barril.

At Dubbil Barril we pulled into the station just as the diesel train from Strahan arrived with our lunches and another hoard of tourists heading for Queenstown. It was raining lightly again so we took refuge under the station awnings to

![](_page_46_Picture_9.jpeg)

Abt No. 3 at Dubbil Barril. Note the rack railway line in the foreground.

eat, although with two full trains at the station there was little room and some had to stand in the rain. There was a short rainforest walk here, but most were content to just stand and watch the Abt engine reversed on the manuallyoperated turntable so it could haul the Strahan train on to Queenstown. Our train would now be hauled by the diesel loco. But, something went badly wrong as the little Abt engine came off the turntable. There was a loud clunk and it went no further. Much discussion and arm waving ensued but as our train pulled away from the station for Strahan, they were waiting on the arrival of an engineer to hopefully fix the problem. Goodness knows what time they got to Queenstown that night!

From Dubbil Barril the line closely followed the King River, crossing it twice. The train then paused for the last time at Lower Crossing, where honey tasting was available on the platform. Most of us took the chance to sample the local produce and much frenzied purchasing followed, with a variety of flavours, such as apricot honey, available as well as just plain ordinary honey.

From Lower Landing the train followed the edge of the river flats, a sandy wasteland still devoid of vegetation due to the immense amount of fine polluted sediment that had built up from mine tailings dumped in the Queen River at Queenstown by the Mount Lyell Mining and Railway Company. This was still happening on my first visit to Tasmania in 1972, the Queen

![](_page_47_Picture_3.jpeg)

King River views on the way to Strahan.

River then just a torrent of silver-grey sludge from the mill. But with the closure of the mine in December 1994 the pollution ceased and now the river is slowly recovering. The new company, Copper Mines of Tasmania, has vowed never to repeat this scenario.

As we continued through Teepookana we began to pass the long-deserted market gardens and dairies that kept Queenstown supplied with fresh food. Then at last the train pulled into Regatta Point, the end of the line. From the station buses took us the remaining few kilometres into Strahan, where we had a few hours to explore the largely refurbished town and its coffee shops before boarding the bus for Queenstown. After tidying ourselves, we dined out as a group at the magnificently restored Imperial Hotel. The food was good too.

### Wednesday 1st March

It rained heavily throughout the night but by morning this had been replaced by a dense fog, which eventually cleared to a bright cloudless day. Barry, Elaine, John and I headed out to explore the countryside to the north of Queenstown while the others took a rest day in Queenstown.

First stop was the Loftus Hills Memorial at the Henty Geological Reserve, a quite photogenic perched glacial erratic of Owen Conglomerate dumped during the Henty Glaciation in the Pleistocene (130,000-200,000 years ago). But it was still too foggy for good photography so we pushed on towards Zeehan, passing the old Renison Tin mine (the World's largest), now operated by Bluestone Tin and almost hidden from the road. I kept an eye out for some of my old fossicking sites for serpentine, stichtite and axinite, but none seemed easily accessible anymore.

In Zeehan several hours was spent exploring the two floors of exhibits in the West Coast Pioneers Museum, one of the finest of its kind in Australia. The Museum was established in 1963 with the closure of the Zeehan School of Mines, which now houses most of the extensive exhibits of mining relics, models, photographs, and of course rocks. Downstairs was the Cavern, a replica of a modern mine stope complete with dirt floor, machinery, and the finest mineral display in Tasmania which included superb red/orange crocoites (lead chromate) from the Adelaide mine at Dundas, housed in glass cases and all from the collection of Frank Mahalowitz, one time owner and operator of the Adelaide mine. Outside in the yard were further exhibits of railway engines, machinery, blacksmiths shop, stamp battery, winding engines and the headframe from the Oceana mine, the last on the Zeehan Field to close. The Museum is run by the non-profit West Coast Heritage Ltd., which is controlled by a voluntary board of directors.

In 1879 tin was discovered on Mount Heemskirk, leading to a boom which saw over 50 companies staking claims over 6400 hectares of what ultimately proved to be useless land. By 1880 only a dozen mines were still working in the area. Then in 1882 the first of many silver-leadzinc sulphide veins was found in the town, leading to a massive boom which saw Zeehan called the Silver City of the West. Dozens of mines went into operation on the rich veins and Zeehan became the third largest settlement in Tasmania, with a population of 10,000. By 1910 the ore had begun to give out and by the 1950's the population had plummeted to 650, with the last mine (the Oceana) closing in 1960. The town survives today on tourism and as the residential area for workers at the Renison Tin mine, 15 kilometres away.

![](_page_48_Picture_2.jpeg)

Steam engines on display in the West Coast Pioneers Museum, Zeehan.

![](_page_48_Picture_4.jpeg)

Barry examining old boilers at the Argent Mine.

Before leaving Zeehan we called at the offices of the Adelaide Mining Company, current owners of the Adelaide mine lease, to find miner Richard Wolfe busy catching up on some painting jobs. He happily showed us inside where dozens of brilliant specimens of crocoite were on show and for sale at very reasonable prices, considering the quality and rarity of this material. None appealed to me but a large new vugh had just been found in the mine. This would be opened up after the National Gemboree at Easter and he would notify us by email when specimens were available.

Our flagging energies restored by mugs of cappuccino at the little coffee shop, we drove out to the ruins of the Argent mine at the back of the Golf Course where Barry found some photogenic boilers and concrete foundations, while I uncovered a few nice specimens of galena and siderite in the ore dump near the mesh-covered main shaft. We then explored a number of old mine workings out along the road to Grenville Harbour, but nothing of interest was found. We did however find the exposed oxidised cap and underlying sulphide zone of a large pyrite-rich vein in a road cutting, a rare sight indeed and a great field teaching aid for budding mine geologists.

Disappointed at failing to find nice specimens we moved on to the Tasmania smelter site, a few kilometres south of town on the Strahan Highway. Built in 1889 and financed by Metallgeseltschaft and the Deutches Bank, the smelters treated ore from the Zeehan, Dundas and Mount Read mines until 1913, without profit. They were re-opened after World War I by electrolytic Zinc but finally closed for good in 1948. All silver-lead bullion produced was sent to England for refining.

We enjoyed a picnic lunch on top of the ridge overlooking the site, close to small patches of Tasmanian Christmas bells in flower amongst the grass. Then a few hours were spent wandering amongst the ruins, with sufficient rusted and twisted metal and collapsed structures to keep the photographers well occupied. The three old sulphide ore roasting furnaces, once used to drive sulphur from the ore and make it more amenable to further processing, were especially targeted. Two were largely intact with their refractory lining still in place but the third had fallen or been pushed over, its distorted rusty iron shell now providing the perfect frame through which to photograph other ruins. Immediately to the south lay the huge black slag dump and beyond that, on the other side of the highway, Mount Zeehan dominated the horizon, its rounded form blanketed in dense low scrub.

While Barry and I had been racing around recording as much of the site on film as possible, Elaine had chanced on the site of the old assay office. Until recently it had been covered by thick grass, but someone had set fire to that in the hope of revealing relics in the underlying rubble. And relics there indeed were. By the time we caught up Elaine had found number of complete crucibles and cupels, but despite a frenzied search we had to admit that she had already found the best!

Nearby, at the foot of the slag dump, we came upon a pile of rusted shovels eroding from the granular slag. A magazine article I had chanced on in Launceston explained this as a legacy of the last day of operation in 1913 when, at the end of their last shift, the furnace hands relinquished their shovels, which then had their wooden handles sawn off by the foreman to prevent re-use before being thrown in a heap to remain as a poignant reminder of a proud operation which never really succeeded.

Back near Zeehan we paused at the Pioneer Cemetery, but the light was totally inappropriate for photography so we moved on towards Rosebery, intending to take the back road to Queenstown via Lake Plimsoll. First however we took the short drive out to the Murchison Dam, but while it had looked promising on our map there was nothing to see but a concrete wall damming a dim narrow gorge.

Route B28 is one o Tasmania's best kept secrets, leaving the Murchison highway south of Lake Rosebery, travelling down the edge of the West Coast Range via Lake Plimsoll and rejoining the Highway near the Henty Geological Reserve. It gave us fantastic views of the southern side of Mount Murchison and expansive views out across the rugged mountain wilderness to the south. Lake Plimsoll itself was especially photogenic, set in a background of bare rugged con-

![](_page_49_Picture_7.jpeg)

Sulphide ore roasting furnaces at the Tasmanian Smelter site.

![](_page_49_Picture_9.jpeg)

Lake Plimsoll.

glomerate peaks. Shortly before we rejoined the Highway another small lake provided more great **photos, and partly hidden by reeds at the water's** edge I found a small safe, blown open and dumped. There must be a story there somewhere!

Back on the Murchison highway there were again magnificent views of the mountains around Queenstown in the late afternoon light, but again we found nowhere to pull over to enable the scenes to be recorded on film.

### Thursday 2<sup>nd</sup> March

We awoke to a real pea-souper, but this soon cleared to a brilliant cloudless day. Once again everyone would make their own way to our next base camp on the outskirts of Hobart, breaking the journey at whatever attractions suited their mood.

Tony had mentioned a lookout on the way to Darwin Dam that provided spectacular views so with the Forester packed with all our stuff and rocks from Mount Bischoff still rolling around in the back. Dorrie and I started out for Darwin Dam. But there were no signs and we had to ask at a garage for directions before eventually finding the narrow sealed road south. It passed along the flanks of Mount Owen and followed the Queen River to Lynchford before crossing the King River and climbing up over the West Coast Range. The view over the King River canyon from the lookout was indeed well worth the drive, but the best was yet to come as we decided to drive on to the Dam. Views along the southern side of the West Coast Range were exciting enough but as we came over the crest above the southern end of Lake Burbury an unforgettable vista unfolded before our eyes. The valley was full of fog, with line after line of rugged ranges receding off in the distance and silhouetted against a deep blue sky! Just short of the Dam we came to a low ridge, maybe 200 metres high, covered with conglomerate boulders. It was easy to climb and on top I found myself in a dream world of huge boulders and small perched swamps, an unbelievable photographer's para-

![](_page_50_Picture_5.jpeg)

Mount Owen reflected in the still waters of Lake Burbury.

dise! Two films later I suddenly became aware of the Forester's horn blaring across the serenity, but ignored it! Dorrie had obviously become worried at my long absence, but she would just have to wait a little longer! This was just too good and I was in no hurry to get to Hobart, not now.

It was well after morning tea time before we were back on the road and headed for Hobart. At Gormanston the new Lyell Highway diverted along the old Crotty Basin railway route, constructed by the North Mount Lyell Copper Company in 1900 to access their smelters at Crotty and shipping port at Kelly Basin on Macquarie Harbour. This operation failed and in 1903 was merged with the Mount Lyell Mining and Railway Company. The Highway crossed the new Lake Burbury via the Bradshaw Bridge and from here there were magnificent views back across the lake to the West Coast Range, but again nowhere to stop.

Most people stopped at Donaghy's Hill to take the 1.6 kilometre walk to the lookout, a small rocky pinnacle providing magnificent views south to Frenchman's Cap and west towards the Raglan Range across the magnificent and pristine Collingwood Plain. A little further on we found a roadside parking bay with great views across button grass plains to dolerite peaks off in the distance. In fact there were many scenic spots between this stop and Derwent Bridge, but nowhere to safely pull off the road!

Near Derwent Bridge Barry, Elaine and oth-

ers stopped at a new attraction called 'The Wall' opened only the day before by sculptor Greg Duncan, who was in the process of creating a wall more than 100 metres long of exquisitely carved Huon pine featuring the history of Western Tasmania. Barry described the quality of this and other works of art here as just astounding and this is destined to become one of the main tourist attractions in Tasmania.

Once past Derwent Bridge we began entering the dry heart of the island. A hundred kilometres to the west is the second wettest town in Australia, where the rainfall is measured in metres. Around 50 kilometres to the east is the lower Derwent Valley, with reasonably high rainfall. But here annual rainfall is less than 500mm. With little rain so far this year it looked even dryer than normal.

West of Hamilton we had caught up with Barry and Elaine and followed them to Glen Clyde House, an historic building advertised as an upmarket art galley and coffee shop. But we found the works of art the usual mass produced items and they did not sell iced coffee, or ice cream. Hmmph!

We soon found ourselves close to Berridale, on the northern outskirts of Hobart, but most missed the freeway exit and one group ended up in Hobart before turning back to the Treasure Island Caravan Park.

The van sites seemed very well placed, right on the edge of Lowestoft Bay, but it was soon discovered that being so exposed to the westerlies is not really a good idea! Once again, the campers were packed in like sardines. The cabins were found at the far southern end of the park and right next to the sewerage treatment works, but were comfortable enough for our short stay. From here we could look across the bay to the Cadbury Factory, our first stop tomorrow.

#### Friday 3rd March

No-one seemed too keen to get out of bed this morning and indeed there was no rush. Our

![](_page_51_Picture_7.jpeg)

Mount Wellington, the remnant of a large Dolerite Sill that exhibits fantastic Columnar Jointing.

scheduled tour of the Cadbury-Schweppes Chocolate Factory wasn't till 11am so there was plenty of time for a leisurely breakfast before the short drive. However, although there was a large sign at the turnoff on the highway, once we left the main road there were no signs, and more than a few people became confused in the maze of streets before eventually finding the parking area.

Once inside we found absolute mayhem, with the rooms not big enough to comfortably hold the throng of people eager to tour the works. Confusion reigned supreme and it was 11:30 before our group moved off. The tour would be fascinating enough, but what we had come for were the free samples! However, much to our collective dismay, the practice of allowing visitors to sample the various products along the way had been discontinued by Government Decree only a few weeks before our visit. There would be no free samples so we would just have to keep our hands in our pockets and drool! We blindly followed our guide through the maze of factory floors, past a variety of huge mixers and chocolate moulding machines, all the while our taste buds tantalised by the aroma of fine chocolate. On the way out though they did hand out a free box of wrapped chocolates and the shop held a fairyland of goodies at very low prices, so everyone stocked up before leaving.

The day had turned out quite hot, around 36°C, so we decided to spend the rest of what had turned out to be a magnificent day up on

Mount Wellington. The mountain rises to 1271 metres above Hobart and its upper part comprises columnar dolerite, part of the Mount Wellington sill. There were magnificent views over the Derwent Valley from the summit, with plenty of interesting dolerite outcrops through which to frame our photographs, although by the time we got there high cloud was moving in preceding the next change. Barry and I explored the top section of the Organ Pipes Trail, but found nothing, although the pinnacle 1.5 kilometres to the south of the summit looked very promising. On the way down the mountain we traversed the bottom end of the Organ Pipes Track, but no-where did it get close enough to the rock face for good photographs, so after several kilometres we retraced our path back to the cars and returned to camp.

### Saturday 4th March

A southerly change came across overnight and the day dawned cold with drizzly rain. This was a good day to spend at the Salamanca Markets in the City. Here we found a large number of stalls offering a wide range of materials, but very little of real interest. In my mind they were nowhere near as good in terms of variety and quality as the Maitland Fair Markets back home, the largest markets in the southern hemisphere, so Dorrie and I were quite disappointed. Unfortunately, Dorrie became ill at the markets and had to return to camp. Over the next few days the gastric bug she had caught manifested itself throughout the group, with myself, Jan, Terry

![](_page_52_Picture_3.jpeg)

Salamanca markets on a foggy Hobart morning.

and Lyn eventually succumbing to the rampant virus that was apparently sweeping Tasmania.

The afternoon was spent in the Royal Hobart Botanical Gardens, where the conservatory, Macquarie Island exhibition, Tasmanian garden, Japanese garden, cactus house and Peter Cundle's vegie patch were visited before retiring to the coffee shop. The Macquarie Island exhibition was something really different. Built in the form of a small cocoon, its inner walls were painted with Macquarie Island landscapes so that it looked much larger than it really was. The display comprised unique plants that have learned to survive in the severe conditions and to ensure they survived here the climatic conditions were tightly controlled, with a temperature of 13°C and fans maintaining a wind of around 20 knots. To spend more than 5 minutes inside required quite warm clothing. Barry was quite disappointed at the number of species in the Tasmanian flora section and also noted that signs had not been updated to account for revisions in taxonomy over the last 10 years. Oops!

### Sunday 5th March

The weather outside this morning was absolutely brilliant, so we decided to spend the day on Bruny Island to the south of Hobart. At Kettering, we found that the Island was in fact a very popular choice on Sundays and there was a huge **queue for the ferry across the D'Entrecasteaux** Channel. It was a huge ferry though and easily took all the waiting vehicles.

Once on the Island it was decided to head directly for Fluted Cape before the sun moved off the sea cliffs, but we got sidetracked at Great Bay with amazing views across near-shore sand bars. **At the neck we couldn't resist climbing the stairs** to the lookout, which provided wonderful views, particularly across Adventure Bay towards Fluted Cape. We were again sidetracked at Coal Point by some interesting sandstone outcrops, but eventually arrived at the head of the walking track to Fluted Cape.

![](_page_53_Picture_0.jpeg)

"The Neck" Bruny Island. View is South towards the South Bruny Range.

![](_page_53_Picture_2.jpeg)

Fluted Cape, a cliff formed from Columnar Jointed Dolerite.

![](_page_53_Picture_4.jpeg)

Cape Bruny, Cape Bruny lighthouse and Lighthouse Bay.

Passing several ruins of old whaling stations we found ourselves at Grassy Point within half an hour, but then the track seemed to vanish. After following a number of blind tracks up the ridge towards the cape through treacherously slippery conditions caused by the thick carpet of Casuarina needles and coming unnervingly close to sheer drops into the Southern Ocean, we eventually came out at a point on the cliff edge directly overlooking Fluted Cape. And what a view it was, a huge face of columnar dolerite towering straight out of the ocean and still fully lit by the sun.

Back at the car, we drove to some picnic tables at Quiet Corner for lunch, with dessert provided by the rampant blackberry vines beside the road. Then it was off to Cape Bruny at the far southern end of the island. Lookout points on the way provided stunning views of a rugged dolerite coastline, each one better than the last. At the Cape we had only enough time to climb to the lighthouse for more stunning views before the drive back to the ferry, arriving just as the next one was boarding. I complained that we had missed out on the promised cappuccino but it was just as well. As we neared Hobart I had begun to feel decidedly ill as the gastric bug hit and I would be out of action for the following two days.

Later that evening Jan gave very favourable reports on the Bruny Island cruise, billing it as **probably the best \$50 she'd ever spent. Of course** they had chosen a perfect day and the normally rough Southern Ocean had been like a sheet of glass!

### Monday 6th March

A front passed by during the night, resulting in a cool, cloudy and very windy day. It was decided that with the likelihood of light rain, Mount Field National Park might be just the place to go, but only Barry, Elaine and Tony headed out, the rest finding something else to do. Mount Field National Park is located at the end of a spur of the Central Plateau, which extends between the Tyenna and Derwent Rivers. It contains a variety of ecological niches, from lowland forests to subalpine regions, with a number of picturesque tarns and alpine communities on the higher ridges. The elevation varies from 150 metres at the park entrance to 1430 metres at Mount Field West.

The largest tarn, Lake Fenton, provides around 20 percent of Hobart's water and as a result good road access had to be provided to the lower end of the lake, which has been artificially extended to Lake Dobson. Apart from a few private roads to ski huts developed prior to the declaration of the park, there are no other roads and few walking tracks other than to features very close to the road.

The first walk was to Russell Falls, one of the best known natural attractions in Tasmania. With its prominence as a tourist destination, a wheelchair accessible trail has been constructed to the base of the falls, while an alternative foot track can be found on the other side of the river. A very steep foot track extends from the base of the falls to Horseshoe Falls, further upstream, while a number of minor tracks to vantage points overlooking the main falls had been closed off since **Barry's last visit.** 

Due to the unusually dry conditions, there was very little water going over the falls and the surrounding rainforest was noticeably dry, but the falls are always beautiful under any conditions. After lunch the Tall Trees walk was attempted - a short walk through an area of giant mountain ash, or swamp gum as they are known

![](_page_54_Picture_4.jpeg)

Russell Falls, Mount Field National Park.

in Tasmania. The largest tree towered 79 metres into the misty sky.

From Russell Falls the group travelled to Lake Dobson, stopping on the way for a good lookout and a magnificent stand of climbing heath, as nice a wildflower as you could wish to see. At Lake Dobson they were confronted with an almost gale force westerly which felt like it was blowing off snow. Despite this the group headed off on a marvellous walk around the lake, Barry wishing he had worn anything else but shorts.

Lake Dobson is a moderately large tarn, created by glaciation during the last of the Pleistocene ice ages. At 1000 metres it lies at subalpine elevations and is surrounded by natural vegetation which includes a full complement of subalpine plant communities, from heath to snow gum woodland and at the head of the lake a myrtle (beech) forest surrounded in turn by snow gum. Like most subalpine tarns in Tasmania, Lake Dobson had a fringe of beautiful pencil pines which are endemic to subalpine Tasmania.

Although there were *Pandanis*, reputed to be the world's tallest heath, all along the track, once in the grove proper they were absolutely magnificent and formed the dominant understorey species. What amazed Barry was that they dominated everything, including the heath, woodland, snow gum forest, and even the understorey of the myrtle forest.

![](_page_54_Picture_10.jpeg)

Once out in the open the group was lashed

Horseshoe Falls, situated above Russell Falls.

with an incredibly cold gale, with Barry now really wishing he had not worn those shorts. Although he had waterproof trousers in his pack, his thoughts were of freezing to death while he got them out and changed. So they made a run for the car and drove off with the air conditioner on full heat! Back at camp they found their camper trailers had been hit hard by the gales, with John's annexe having literally taken off.

### Tuesday 7th March

After howling gales all night we woke to a cloudy, very windy and showery day. Dorrie and I felt just a little better and she had phoned last night to book us on the Bruny Island cruise. For the rest of the group, Barry thought the Tahune Airwalk would be just great under these weather conditions. As it turned out the Airwalk was sheltered by high mountains and proved to be one of the highlights of the trip.

From the elaborate tourist reception area at the Tahune Airwalk, the group walked down to the Huon River, across a bridge and up the other side of the valley to begin the walk, a metal structure which started off fairly high up the hillside, then projected out over the valley until it was level with the tops of the highest trees, before circling back to the hillside, 50 or so metres from the start. At its highest point above the valley, a cantilevered section extends out above the Huon

![](_page_55_Picture_4.jpeg)

Tahune Airwalk overlooking the Huon River.

River, providing magnificent views, but also a disconcerting amount of movement as people came and went. A guide later told them that if they were really concerned about the amount of movement they should go out with a group of school children! It was actually quite safe and designed to hold the equivalent of two full size elephants moving around.

Once off the Airwalk, Barry found an alternative trail to the bridge which meandered through the magnificent forest of stringybark that had been seen from the Airwalk. These trees are the same species as the pencil-straight messmates found on Barrington Tops, but the variety here is much larger.

After the Airwalk, a beautiful picnic area on the banks of the Huon River was chosen for lunch and then on to the Huon Nature Walk, one of the best bushland walks on the trip so far. From here the group split up, with Carol, John, Barry and Elaine heading back to Geeveston, with stops at West Creek Lookout, Keogh's Creek Nature Walk and the Look-In Lookout.

West Creek Lookout proved to be a mini Airwalk, providing a view over a stand of sassafras on the opposite side of a steep-sided gully. Here an interpretive sign explained the difference between normal sassafras and the blackheart sassafras favoured by timber craftsmen. Apparently older trees lose their tops in storms and moisture leaching in from the exposed timber creates the dark patterns so sought after by the craftsmen.

Keogh's Creek Nature Walk consisted of a series of boardwalks and viewing platforms along Keogh's Creek, but didn't appear to be anything near the quality of the Huon Walk.

The Look-In Lookout was interesting. A track led to a viewing platform, with a restored steam engine and winch beside the track. The viewing platform looked into a typical forest and contained a number of interpretive signs showing forestry activities.

![](_page_56_Picture_0.jpeg)

Life-sized figures carved from wood scattered throughout the Geeveston shopping centre.

At Geeveston, Barry walked around photographing the interesting collection of life size carved figures scattered throughout the shopping centre. Wet from the rain these carvings took on the most beautiful golden yellow colour. Each carving depicted a local resident or former resident of the town and was accompanied by a plaque containing information regarding that person.

The group met up again in a fascinating craft market / workshop in a large hall, with a variety of stalls at the centre and cubicles all around which housed the artists, many of whom were working on new creations.

Dorrie and I had picked a bad day for our Bruny Island cruise. With the windy weather the Southern Ocean was too rough to enter so we saw only part of what Jan and the others had seen on the Sunday and the cloud cover wrecked any chance of good photographs. Still Rob Pennicott and Michaye Boulter, who operate the cruises, could not have gone any further out of their way to make the trip informative and enjoyable and proved fantastic hosts under very difficult conditions. They deserve to succeed in what they are doing!

![](_page_56_Picture_5.jpeg)

The wonderful Richmond Bridge.

#### Wednesday 8th March

The weather was not being very kind to us at all and we again woke to a heavily overcast day for our transfer to Port Arthur via Richmond.

Richmond is not the town it used to be, now very commercialised and grabbing for the tourist dollar at every turn. Still there were some nice bakeries / coffee shops and that helped to while away some time. The one big attraction that we found worth seeing was the miniature scale model of old Hobart Town. It was beautifully executed and no wonder it has won three prestigious tourism awards. Next door we found one of the finest wood craft shops seen in the whole of Tasmania, crowded with finely crafted wares. I was so taken with the exquisitely detailed wooden true to scale models of vintage cars on one shelf that I bought one, a 1929 Buick similar to the one driven by the manager of the Mount Lyell Mining and Railway Company, despite the cost. These are made only occasionally by an old retired gentleman in the town just for beer money! Barry made some quite cutting remarks about local councils and tree preservation orders when he found that St. John's church could no longer be photographed through the arches of the Richmond Bridge because of a tree which had grown in front of the church.

After Richmond it was a simple matter of driving to Port Arthur via Eaglehawk Neck and its many geological and scenic attractions. First stop was the Tasman National Park Lookout, which was spectacular even in the dull cloudy weather, with views down to the dolerite cliffs at Cape Hauy. Next stop was the Tessellated Pavement, but we found this guite disappointing after the marvellous though smaller examples along the coast around Newcastle. The patterns were not as distinct as I had remembered and most of the platform was now partly obscured with weed. Tasman Arch and Devil's Kitchen, both formed by partial collapse of caves worn into the finely laminated sandstones by wave action, were much as I remembered them and still very difficult to photograph. Dorrie and I then detoured via the old convict settlement at the Coal Mines Historic Site, Tasmania's first operational mine, where we found some exceptionally photogenic convict ruins, then continued on to Port Arthur.

The Port Arthur Caravan and Cabin Park at Garden Point was a real surprise. The campers were extremely happy with their sites and the amenities and the self-catering timber cabins were huge, well-equipped, clean and placed so far apart that no-one interfered with anyone else. A small well-stocked shop stood at the entrance and petrol was also available. It was also one of the cheapest parks in Tasmania. The one and only possible drawback was the lack of adequate lighting at night.

A few of us drove down to the Port Arthur Historic Site Visitor Centre to have a quick look around. Here we found cruises available out to Tasman Island and thought that might be interesting for tomorrow since they only ran on Mon-

![](_page_57_Picture_3.jpeg)

Tessellated Pavement Eaglehawk Neck.

days and Thursdays. Most of us had walked around Port Arthur ruins before and had no wish to repeat that exercise. But the visitor centre contained a superb museum, which we would explore later if time permitted.

#### Thursday 9th March

The day dawned quite cloudy at first, but this soon began to break up to a partially sunny day. Barry, Elaine, Vic and Leonie would spend the day on Eaglehawk Neck. The rest of the group assembled at the Port Arthur Historic Site jetty ready to board the boat for the Tasman Island wilderness cruise.

As the huge new craft pulled out at 9am with virtually only us on board, little did we realise the spectacle and adventure that lay ahead. With the low passenger numbers we had full run of the boat and that would prove very much to our advantage as the cruise progressed.

The trip across the bay from Port Arthur past the Isle of the Dead was smooth, relaxed and quite scenic, and I noticed some interesting caves in the thinly laminated sandstones in the cliffs below Point Puer which I would try to explore later. However once we reached Maingon Bay and turned north along the coast the scenery changed dramatically.

Here we were confronted with an unbroken line of cliffs of the most exquisite columnar jointed dolerite imaginable, and they got progressively higher and more impressive the closer

![](_page_57_Picture_11.jpeg)

Tasman Arch, Eaglehawk Neck.

we got to Tasman Island. The dolerite cliffs on Bruny Island had been spectacular, but the scenery here was far beyond that, far better than any of us could have expected! As we approached the 200 metre high Tasman Island, its dolerite cliffs rising sheer from the water, we noticed a series of sea stacks off to the south but did not get close enough for good photographs. For that we would have to venture too far out into the Southern Ocean. But we would see far better as our voyage continued.

Our skipper had been very quiet and reserved at first, and apart from welcoming us on board had said very little. But once we neared Tasman Island he opened up with a flood of information and prattled on continuously on every conceivable aspect of what lay before us, as if he was being controlled by a tightly wound spring on which the locking key had suddenly been released. His information on the geology was absolutely spot on, and we could only assume that **everything else he said was the same. He wasn't** reading it either!

The boat moved slowly into the narrow channel between the Island and Cape Pillar and the scenery became so stupendous we just stood on the deck and gaped in disbelief, all the time trying to decide just where the point our cameras. The sea was unusually calm apart from only a moderate swell, otherwise photographs would have been next to impossible and our disappointment would have known no bounds. Even so, it took some fancy footwork to move about. At one point Halina lost her balance on the upper deck

![](_page_58_Picture_3.jpeg)

Cape Pillar formed from columnar jointed Dolerite (like many other landforms in Tasmania).

![](_page_58_Picture_5.jpeg)

Church ruins, Port Arthur.

and had a nasty fall. As a result she was unwell for the remainder of the trip.

We spent some time hovering between Tasman Island and Cape Pillar, with its unbroken 295 metre columnar dolerite cliffs emerging directly from the ocean and another 40 metres of dolerite below. The skipper moved the boat close to the cliffs, close enough to touch, then away again several times to ensure we all got the photographs we wanted. A little further north a gigantic sea stack soared into the sky just a few tens of metres offshore and beyond that we could see the dolerite cliffs continuing right up to Cape Hauy. The geology here was so fantastic, so dramatic, so out of this World that few of us took much notice of the abundant sea birds or the seals basking on the rocks at the foot of Tasman Island. Even the sun obliged, occasionally coming out and bathing the cliffs in its golden light.

All too soon it was time to head back to Port Arthur and I almost cried as those fantastic dolerite cliffs gradually vanished from view as we re-entered the bay. But our skipper hadn't yet paused for breath and continued on about the state of the Tasmanian fishing industry, of which his family had been part. He spoke with such sincerity and authority that I wished I could have had a transcript. What he was saying made so much sense. As we approached the wharf we were handed complimentary mugs of cappuccino and a muffin. Pity we had so little time to enjoy them; the coffee was the best we had tasted in Tasmania and the muffin was fresh baked and delicious!

Convinced that we had now seen the very best Tasmania had to offer and that everything else would be just ho-hum, we drove around to Remarkable Cave at the Head of Maingon Bay, where Barry had arranged for everyone to meet at 11:45 am, when the tide would be at its lowest. The view into the cave from the platform at the base of the stairway was indeed impressive, but not as I had remembered it. It was difficult to take anything more than the usual tourist photograph but Barry, after seriously studying the notice, found that it said absolutely nothing about not climbing the fence and entering the cave so jumped the fence and ran in, only to be chased out again by the next wave before getting any shots.

We returned to the caravan park for lunch, then split into groups to go off to various scenic attractions. Barry, Elaine, Vic and Leonie went off to explore the Nubeena area and ended up at White Beach, a rather beautiful crescent of white sand. Dorrie and I drove out as close as we could to Point Puer, while Lyn went off and did her own thing, somewhere, who knows where!

Out on the dirt track to Point Puer we came to a locked gate accompanied by a notice requesting that anyone wanting to visit the ruins take a guided tour. Bugger that I thought, and headed off on foot while Dorrie stayed in the car to read her book. It was fairly flat walking through open forest and about two kilometres before I could see the ruins ahead. I could also see a small official tour group wending their way around the walking trail and as I got closer I recognised one of the participants; it was Lyn! So that's where she got to! Hearty waves were exchanged as I headed off into the scrub to the edge of the sandstone cliffs I had seen from the cruise that morning. But, although I found a good rock platform from which to take photographs I could not locate the caves.

#### Friday 10th March

This morning we all had to pack up again and head for Coles Bay on the east coast. I don't think anyone really wanted to leave this caravan park, but we had to stay with the program. Again, everyone would make their own way, stopping off at whatever took their interest.

Now armed with a detailed pamphlet obtained at no cost from the visitor centre, Dorrie and I decided to return to the Coal Mines Historic site for a more detailed look, and it proved **one of the most interesting historical places we'd** visited in Tasmania.

Moving on we headed north across the isthmus at Eaglehawk Neck, turning onto the Wielangta Forest Way at Copping, then off towards Marion Bay. We found the settlement with little problem, nestled between the bay and a large coastal wetland, but finding our way back to the Forest Way with absolutely no signposting proved the real problem. We kept on ending up **in someone's front yard and eventually retraced** our path to Copping before setting out again.

The Wielangta Forest Way wound up into the hills through densely timbered country and quickly became very rough and stony. But this was a much shorter route to Orford than going around through Sorell, and with potentially better scenery, so we persevered. There was only one scenic lookout, the Marion Bay Lookout which provided great views over the forested hillsides and across Marion Bay. Further on there were good rainforest walks, especially at Sandspit Forest Reserve, where a track down the old timber tramway led to the former town of Wielangta.

However the greatest attraction along this route was the infamous Robertson Bridge, cleverly and beautifully constructed of unbelievably massive logs many years ago and still in service. It was possible to follow a track down under the bridge and around through very picturesque rainforest. Unfortunately we could find nothing on the history of this fantastic structure, an example of the ingenuity of early road-building engineers.

The road continued north as rough as ever, so when we came to the turn to the Three

Thumbs Lookout we decided to take another break. But although only a few kilometres long, this track was even rougher than the main road and so narrow in places as it edged along the steep hillsides that it would have been impossible to pass another vehicle. The view over Maria Island from the summit would have been great had not been for the trees in the way, and we found better views back down the track on the way out. Even better views over Maria Island across Prosser Bay could be had from the foreshore at Orford, although the weather was now closing in again after being guite sunny for the previous few hours. Barry commented later that he was amazed at the rapidity of weather changes in Tasmania, making it impossible to plan forward for weather conditions. Completely clear sunny days appear to be rare.

From the Three Thumbs Lookout it became a race to reach Coles Bay and set up camp before darkness set in. But we took another short break just south of Swansea for cappuccino and blackberry ice cream at Kate's Berry Farm. We only asked for small ice creams but when they arrived they were huge! Apparently the large ones are served in a tub!

Coles Bay is a small holiday resort town at the northern end of the Freycinet Peninsula, a narrow peninsula around 17 kilometres long containing spectacular granite hills to 620 metres and beautiful white beaches. Geologically, the area is famous for the 375 million year old red granite once quarried at the base of Mount Mayson and used as a construction and facing stone around Australia. The Iluka Holiday Centre, our base for the next 2 nights, proved to be yet another substandard park on mainland standards, with everyone absolutely crammed in and so much dust coming off the internal park roads that it penetrated everything.

### Saturday 11th March

After overnight drizzle, the weather cleared with only patchy low cloud. The breeze was light at first but had increased to gale force by later afternoon. Our first target was the Cape Tourville Lighthouse, where a boardwalk has recently been constructed around the top of the cliffs giving superb views to the south over the Hazards, Thoin Bay and Cape Forestier in the distance, but not allowing us to see the islands to the north. For that we had to set a bad example and climb over the safety fence!

Barry had heard good reports of Bluestone Bay, accessible from a 4WD track which led off just back down the road. It was fairly flat driving and the track was in surprisingly good condition, apart from one point where a few large boulders challenged those with relatively low clearance vehicles. It led directly to the edge of Whitewater Wall, a spectacular line of 100 metre white granite cliffs, where we were able to balance on clifftop boulders and get some great photographs. Care had to be taken here though, as a forest of she oaks (Allocasuarina verticillata) had established itself along the top of the cliffs and over the years had dropped piles of hard round seed pods which were like ball bearings underfoot on the smooth granite outcrops.

The last section of the track down to the shores of Bluestone Bay was strictly 4WD, and Vic did make it down in his Pajero, and back. The Bay is certainly beautiful but is definitely an early morning venue for the photographer. By 11am many of the spectacular lichen-covered granite outcrops were in shadow. The Bay is rimmed by rounded granite cliffs and the granite itself proved quite interesting. As well as containing mafic minerals (high in magnesium and iron such as hornblende) and xenoliths (inclusions), the rocks were criss-crossed with quartz veins and spectacular pegmatite dikes. The pegmatites were formed from residual hydrothermal fluids left over after the granite cooled and crystallised. These fluids moved into shrinkage cracks and the minerals precipitated from them crystallised very slowly to form a mesh of relatively large crystals, in this case up to 10 centimetres across. Pegmatites often contain exotic minerals composed of elements that cannot enter into the structures of the minerals making up the granite itself (quartz, feldspars, hornblende, biotite) and are often regarded as the refuse dump of granite bodies. As a result, central cavities in the veins may contain well-formed crystals of gem minerals such as aquamarine, topaz, quartz, tourmaline, etc. But although we searched, we had no luck here!

After lunch we moved on to Sleepy Bay, where a coastal track led around a couple of small promontories, each providing spectacular views down the granite coastline past the sea cliffs on the eastern side of Mount Parsons and on to Cape Forestier beyond. The track terminated at a small beach, but Barry continued on around the rocks to find a metal bridge that had for some reason been firmly bolted to the rock. I stayed at a good vantage point overlooking the beach, waiting for the sun to emerge. But at the very time that it appeared, bathing the rocks in magnificent light, a family moved in and set up their picnic on the rocks in the distant foreground. I was so annoyed I'll bet they heard me back in Coles Bay, but they refused to move!

After Sleepy Bay, Dorrie and Tony took the boat trip to Wineglass Bay, leaving Halina at camp recovering. Barry decided the rest of us would have a go at getting to the Wineglass Bay Lookout, to the north of the saddle on the western side of Mount Amos and reached by following the Wineglass Bay Track. It was only 3 kilometres return but there were a lot of steps. Barry, who must have at the stage felt more than a little bored with it all, counted 845 in all! The view over Wineglass Bay was indeed superb, but the biggest attraction were the fantastic granite out-

![](_page_61_Picture_3.jpeg)

Wineglass Bay viewed from Wineglass Bay Lookout.

![](_page_61_Picture_5.jpeg)

Looking across Coles Bay towards the Hazards.

crops in the vicinity of the saddle, some like haystacks, others towering like the ramparts of a ruined medieval city. Tony and I raced around over the boulders looking for good shots, but the late afternoon light meant that in most cases we were looking directly into the sun!

Before returning to camp Barry and I tried to find a good vantage point for photographs over The Hazards and eventually found a fantastic spot just around from the caravan park.

Since this was the last night the group would have the chance of eating out together, we chose the Tavern Bistro just down from the caravan park. But when Elaine asked about the possibility of gluten-free food she was told they would not cater for her. So the rest of us reluctantly ate out in crowded and noisy surroundings, while Barry and Elaine retired to the peace and quiet of their van.

#### Sunday 12th March

This would be the last day of the official Society trip and many would return back home on the Princess of Tasmania III tomorrow. Barry, Elaine, Vic, Leonie, John and Carol would stay on for several weeks to revisit some old attractions and explore many new ones. Those leaving tomorrow made their own way north for an overnight stay at cabins in the Treasure Island Caravan Park in Launceston.

Dorrie and I decided to travel via Bicheno, St. Helens and the old tin mining town of Derby.

At Bicheno, while climbing around the spectacular granite coastline we ran into Barry, Elaine, John and Carol who were also out taking photographs. But the weather was not good, with strong winds and low scuddy clouds in the east. Sea spray was really being whipped up over the small offshore islands and the Blowhole was putting on a great show.

There was little time to do much exploring and the further north we went the worse the **weather became, although at least it didn't rain.** At one point we pulled in to the side of the road once again to pick blackberries, and found the vines absolutely loaded. Beyond St Helens the road became very windy through dense rainforest, but views were ruined by an extremely dense smoke haze coming from large bushfires in the area south of Scottsdale.

Dorrie and I paused for lunch at Derby, a classified historic town and site of the now abandoned Briseis Tin mine, at one time the largest open cut tin mine in the World. The mine worked a classic example of a deep lead, a river of tin (cassiterite) buried by a basalt flow in the Tertiary, and closed after World War II. In 1929 the mine dam, using to supply water for sluicing, burst without warning and killed 14 people. The old Derby School now houses a small but very comprehensive mining museum which among other things displays a collection of sapphires collected from the mine workings. This was to be out last point of interest on the trip. Now all that remained was to get to Launceston and pack ready to leave for Devonport tomorrow to catch the Princess of Tasmania III back to the mainland

But for some the adventure was not over. A few days ago Lyn had broken out in a nasty rash, which she attributed to food poisoning. But back on the Princess, when asking the purser for some headache tablets, she was immediately quarantined with chicken pox and we didn't see her again until several weeks after the trip. Trip summary was written by Brian England and Barry Collier.

Photographs provided by Barry Collier unless otherwise acknowledged.

For Further Reading on the Geology of Tasmania:

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Acknowledgements.

Photographs were supplied by Ron Evans unless otherwise acknowledged.

Big, big thanks to all members who acted as trip leaders and then supplied reports on their activity. Geo-Log 2006 is somewhat longer this year due to your efforts.

A special thanks to Glenda Smith for proof reading the publication, a huge task in itself.

Geo-Log 2006 was compiled and produced by Secretary Ron Evans in January 2007.

Rontinaus

### Lake Macquarie Cruise Wednesday 3<sup>rd</sup> May 2006

Leader: Jan Harrison.

Attendance: 10.

Ten members turned up at Toronto Wharf on a rather cool, breezy but fine morning for a lake cruise on the Macquarie Star.

We left the wharf at 10:30 am and headed across to the eastern side of the lake. The outside deck on the stern of the boat was most pleasant as we were sheltered from the breeze.

The boat followed the lake past Warners Bay and Belmont to Marks Point when it crossed back to the western side. By then the day had warmed up and jackets were able to be discarded.

The cruise took us around bays where we were able to admire some of the luxury homes built on the waterfront.

The commentary was most interesting explaining some history of the area. Tea, coffee and biscuits were available on the cruise. The boat is well presented and ideally suited for lake cruises.

Arriving back at the wharf at 12:30, most of us decided to lunch at Ripples. The food was good and the company great so we spent a most relaxing afternoon socialising. We should do it more often!

Report by Jan Harrison.

![](_page_63_Picture_10.jpeg)

Macquarie Star, our cruise boat.