

The Working Quarry Part 1

by Bill Glennie

These two articles continue from our The Quarry Apprentice Series which appeared in our Journal of June, September and December 2013."

Moruya Quarry was just over one year old when Reg Saunders began work there. In its first year of operation the management team had grappled with difficulties arising from a shortage of skilled labour and persistent problems with machinery. When Reg arrived at the end of February 1926 the first problem was close to resolution, but it would be several more months before the technical problems were overcome. By the end of 1926 the Quarry was operating relatively smoothly. What follows is an attempt to reconstruct those smooth operations using where possible Reg's own words.

This location meant great handling of the granite units: from quarry to dressing sheds, from 'sheds to stockyard, from yard to boat'

This panoramic view of Moruya Quarry was taken in April 1927, a little over a year after Reg Crapp, as he then was, started work there.

the dressing sheds, the surfacing yard and the two wharves.



The three buildings in the centre were the hub of the complex. Originally they were all the same length. Work to extend the two open-ended dressing sheds began just after Reg started, in readiness for the arrival of thirty additional masons from Scotland. The building adjacent to the dressing sheds was the power house of the entire complex. Inside it two Crossley Premier diesel engines generated the Quarry's electric power. In the same building two Ingersoll-Rand air compressors powered the pneumatic tools used around the Quarry. *'The noise in the engine room was terrific'*, Reg remembered.

In the open yard between the sheds and the river were the surfacing machines which added the finishing touches to the granite blocks before they were stockpiled at the Quarry's main wharf. From there they were uplifted by one of the three steamers commissioned by Dorman Long to take the Quarry's output to Sydney.

A network of railways linked the Quarry face with

The small boat in the photograph is the motor launch used by John Gilmore, the Quarry Manager, to commute between his home and the Quarry. He named it *Bon Accord*, the motto of the city of Aberdeen. Reg speculated that his fellow apprentice, Jock Gilmour, had his meagre wage supplemented for his *'marine duties'*, ferrying his father across the Moruya River. *'No wonder he worked with such a gala mood, day by day. Compared to we other poor unfortunates he lived in the lap of the gods'*.

The scene was in complete contrast to what Reg found when he visited the site in the summer of 1924-1925. Then there were no sheds, no railways, no cranes, and no wharves. Work was still underway to clear the old disused quarry of overburden and to level the site for the infrastructure which would shortly arrive by boat. *'Until all was so set, a few masons worked on the floor of the quarry in the heat of summer. I can recall seeing them and I thought, what a slavish way of getting by, bad as bushwalking. Little did I foresee my future thus.'* It was his father who foresaw his future there.



'You would find it hard to distinguish who was who, the dust was so thick'

The photograph was taken on 11 June 1926 when Lawrence Ennis, the Director of Construction, and Dr John Bradfield, the Chief Engineer, motored to Moruya to inspect progress at the Quarry and to welcome 21 masons, 5 quarrymen and 2 tool sharps recently arrived from Aberdeen. A further 9 masons would arrive in July. The tall figure of Ennis, with Dr Bradfield on his right, can be seen left of centre in the background. The masons have ceased work to face the camera of Robert Bowden, the photographer with the Public Works Department.

Reg described how the masons worked in '*bankers*', ten feet apart. They used both hand and pneumatic tools. The long steel tubes which carried the compressed air for the latter can be seen running along each wall. '*At ten feet intervals an "air cock" was let into the tube. From this air nipple, a rubber air hose extended some fifteen feet in length, the second nipple of which served to connect to a pneumatic hand tool or drilling machine*'.

Also visible is the overhead electric crane. The figure of the crane man can just be seen in his cabin in the top right hand corner of the open end at the rear. The crane picked up completed units and lowered them on to a bogey. '*They were pushed out into the stockyard and off-loaded. These cranes also brought in unprocessed blocks from the quarry and lowered them right into the mason's banker*'.

What the camera could not capture, Reg's words did: '*When those masons started with their hammers and steel points or punches, in the centre of the shed it was hard to hear normally. The chips would fly and the floor was one continual mass of chips*.' In his interview with Richard Raxworthy in 1982 he told him that the masons wore goggles to stop flying particles of grit entering their eyes. But it was the dust that he recalled most clearly. '*Imagine the dust created by a hundred masons in such a shed. On a sunny morning when a ray of sunshine beamed through the shed, you could see how loaded the atmosphere was with fine dust. Sometimes you couldn't recognize your mates in this fog-like cloud*

of dust'. To help disperse the dust, the sheds were left open at each end and the side walls left open at the bottom.

Reg's estimate of 100 masons working in the sheds is reasonable. His figure tallies with Bob Colefax's estimate: '*There were more than 90 masons in the dressing sheds. In addition there were 6 or 7 masons outside in the open, operating air-driven surfacing machines known as "dunters"*'.¹ Their figures would have included the dozen or so apprentices.

'*I remember the Australians*', Reg told Raxworthy, '*I would say there were not more than a dozen Australians in the shed, and there were about twenty Italians. The Italians had their own bachelors' quarters, employed their own cook and lived very well*'. He was unsure whether the Italians were employed on the same terms as the Scots who were recruited in 1926. He knew the details of the Scots' contract because one of them, George Watt, would become his brother-in-law. '*They were engaged on a 5 year contract. One of the clauses was in effect that if the mason remained the full term, the return fare would be paid*'. We now know that there was no overseas recruitment of Italians. There was no need. Those Italians who found work at the Quarry were already in New South Wales, or would arrive shortly after it began operations. But it was the Scots who dominated the dressing sheds when Reg took up his position at his banker on 22 February 1926 to learn the trade of masonry, a trade that '*cannot be learned theoretically, but practically only*', he told Raxworthy. '*It is the most ancient of crafts*'.

‘As I look into these group photos, I am filled with nostalgia’



Fifty years after his dismissal from the Quarry, Reg still had in his possession a number of photographs of the Quarry workforce. They may have been his; more likely they had been his father's. All appear to have been taken in 1928. Some of the Scots he remembered are arrowed in this group photograph which he sent to Ruby Webberley in Aberdeen in 1984: 'Ruby! Is your Dad in this grouping?' (His own father is there.) Reg has written '1928 GROUP 2' below the photograph. There is at least one other group photograph. The workforce was too big to get everyone on camera. He knew of the later careers of two of the arrowed men: Alex Simpson, in the middle of the front row - 'FATHER' is added because Reg knew his son, another Alex, who in 1984 was living

at Jervis Bay - and George Allan. He knew that they returned to Scotland after the work was done at Moruya, then for a time worked at Shap in the Lake District, before returning to Australia. Alex Simpson found work in Lewisham and that might have been when the two men renewed their acquaintance. Reg's brother-in-law, George Watt from Kintore in Aberdeenshire, top right, lodged with Alex Simpson and his wife in the employees' village, Granite Town, before marrying Reg's sister. Such an arrangement was not uncommon. Not every single Scot headed for the Bachelors' Quarters. In 1982 Reg was still in correspondence with the widows of both George Allan and Alex Simpson.



LEFT: Many miles from Kemnay in Aberdeenshire, and enjoying the warmth of the Australian sun on the verandah of their Granite Town home are, from left to right, George (Dod) Allan, his wife, Mary (Polly), and George's brother, Forbes. George and his wife stayed at the Moruya Hotel when they first arrived. They were there when the floods of May 1925 reached the first floor of the hotel. Forbes joined them at Granite Town in August. Reg forwarded to Polly Allan in Canberra copies of Ruby Webberley's letters.

RIGHT: Another family enjoying the Granite Town sun: Bill and Nellie Benzie and their three children, Robert, Bill and Isobel. Reg recalled that Bill Benzie and his brother, Andrew, came over from New Zealand for the duration of the contract. They had only recently arrived in New Zealand from Aberdeen. Bill Benzie is credited with cutting the inscription on the Sydney Cenotaph with Joe Wallace. Young Bill, seen shading his eyes in the photograph, lives in Auckland, New Zealand. Now aged ninety, he proudly claims to have been ‘conceived in Aberdeen and born in Auckland’.



‘Have you any conception of the initiation of the budding aspirant to the craft of masonry?’



This was another of the annotated photographs sent to Ruby Webberley in Aberdeen in 1984. Reg has arrowed 6 apprentices, though only three are identified by name, himself included, his face ringed on the left.

He recalled several by name when interviewed by the *Moruya Examiner* in 1982: ‘If my memory serves me correctly, Charlie Cochrane (deceased today), Billy Wallace, Johnnie Collie, William MacPherson, Douglas Cameron and Jock Gilmore and myself of course’.

He later added to this list: Harold Collett, Norman McIntosh, George and Billy Clulee, Bob Rose - all ‘local lads’.

There were others. In September 1930 the *Moruya*

Examiner published the results of the *Practical and Theory* examinations for Moruya apprentices set by the Technical College of Sydney. In addition to five of the names above, three new names were listed: Joseph Glennie, Colin MacKay, and J Cochrane, a younger brother of Charlie. Harold Haysom, a mason who arrived at the Quarry from Auckland in September 1925, conducted the apprentices’ theory classes in the Quarry school.ⁱⁱ

Reg and Charlie Cochrane became good friends. The Cochranes, a Scottish family, hailed from Auchterarder, a name, not surprisingly, Reg struggled to spell. They arrived in Sydney in October 1924 but not until December 1925 did William Cochrane, identified in the photograph, join the Stonemasons’ Society and sign on at the Quarry, so

young Charlie Cochrane was himself new to Granite Town when Reg signed on as an apprentice.

In one of the occasional tragedies that afflicted Granite Town, an infant daughter of the Cochranes was scalded after falling into a basin of hot water. She died shortly afterwards. This happened three years after Reg had left for Sydney, but he remembered on a return visit accompanying Charlie to visit her *'solitary little grave marked by a bonnie granite memorial'*.

Reg's initiation into granite masonry was in sharp contrast to the experience of Harry Rootsey who joined the Quarry workforce after Reg had left. He remembered his first year as an apprentice in a Sydney yard as being a gentle affair. He told Richard Raxworthy, *'I started boiling the billies first. After running around they give you a bit of stone to muck around with, a hammer and a punch. You muck around, knock a bit off and do something else. After about twelve months they really set you into it'*.

Reg was set into it from the outset. There was no time to muck around at Moruya. The Quarry was behind schedule and the pressure was on. It was a case of all hands on deck, and that included the apprentices. There had been a warning of the rigours that lay ahead when Reg and the other would-be apprentices were told to take themselves to the town's doctor *'to ascertain whether our general health would suffice to stand the arduous occupation'*.

Reg described his initiation to Richard Raxworthy as *'a rather bloody affair'*. The apprentices were allocated an instructor, William Gerrard, who worked beside them. The granite was hard, Gerrard told the new recruits, so they must be hard with it. Each was handed a four-pound hammer and a punch made of high carbon steel, measuring 6 to 8 inches in length.

'We were instructed to place the punch on a given spot, then raise the hammer and try to strike the head of the punch. It was easy enough to lift the hammer but one's sense of direction was not always sure. So after persisting and gaining confidence one would raise the hammer to a good height, with the object of making an impression on the granite – as hard as the hobs of Hell. Well, it makes you very, very tired at first to get used to the four pound weight but you proceed and gain more confidence'.

It was at that moment of misplaced confidence that things went wrong. *'The more confidence you gain, the harder you want to hit. And this point is just when it becomes a bloody experience, because instead of hitting the head of the punch you miss, and you hit your hand and a piece of skin is knocked off as big as a shilling, and your hand would be one mass of blood. You would grab your handkerchief and wrap it round your hand to staunch the blood and regain your equilibrium and have sufficient courage to have another go. I had just succeeded in so doing and was all shocked and nervous when a Scot stepped up to me and said, "My, laddie, your hammer likes meat"'. The wounds healed, but 'when the previous lacerations are just starting to heal, you bash yourself again. You almost swoon with pain. The masons working hard by watch your initiation efforts, which is an embarrassment'*. He need not have been embarrassed. They had been through the pain of initiation.

'After 3 months of butchering your hand, you begin to make progress. You can see it is possible to work the granite'.

The speed at which the masons in the shed worked amazed him. *'They used to race each other. They were jealous of each other's capacity to turn these units out and they used to race'*. The average time for the completion of a stone was one week. *'I don't mind confessing that as an apprentice I was expected to work as laboriously as a mason on full money. Nevertheless, it used to take me a week to a fortnight to finish one stone'*.

The Scottish and the Italian masons did not compete against each other, he told Raxworthy, although he did remember one Italian mason, *'Zillo. He was a six foot man, black as the Ace of Spades and tough. The way that man used to belt into that granite, he used to make some of the other fellows look like apprentices, he was so strong. He absolutely gloried in beating the other fellows with his stone'*.¹

Not every mason worked with such gusto: *'There was one man there whom I today think had the right attitude of mind, and his name was Jim Kennedy. It was going to be a five-year contract and Jim Kennedy wasn't going to kill himself. He was going to take it easy. I don't know. The man might have had a bad heart. I sometimes think he must have had, because Jim used to stand by his stone and have a gaze around, and work ad lib. He didn't expend himself one bit, and still the contract was finished on time'*.

ⁱ *Moruya's golden years*, A V (Bob) Colefax, 1997, p15

ⁱⁱ *Moruya Examiner*, 20 September 1930

¹ Identified from the records of the Operative Stonemasons' Society of New South Wales as Giovanni Xilo, a union member since August 1923

The Working Quarry Part 2

By Bill Glennie

Details are from an interview by Richard Raxworthy with Reginald Saunders in 1982.



'Now this is the practice of what we call drafting the stone up' 'If I am not trespassing too much on your time, Richard, I will outline the principle'.

Richard Raxworthy was about to be treated to a layman's guide to the principles behind the drafting of the granite blocks destined for the Harbour Bridge pylons.

First, he wanted to know who was responsible for determining the size and shape of each stone.

'I would say that the honour to be conferred is the right of Mr William Morrison. He was the leading draughtsman and in his office he had his equipment there and he used to draught out to within a sixteenth of an inch an individual design. The shed foreman, his brother-in-law, Tom Pittendreigh, would bring this design out to the stonemasons and they would see what was required to be done on that particular stone'.

The photograph shows the blocks of granite banked up on 'horses' - blocks of wood - at a convenient height and level for working. There was no sitting down on this job. Reg recalled, *'To finish a unit ready to pass inspection, one used punches, hand chisels, machine chisels and pneumatic hand hammer and drilling machine. The four pound hammer was used most of all'.* On the left, two

masons are still at the hand tool stage, removing excess granite with hammers and punches. The narrowness of the punch heads left little room for error. That narrowness concentrated the full force of each hammer blow down through the centre line of the punch. The masons on the right have moved on to using pneumatic tools.

But first each mason had to assess the stone he had taken delivery of and then select the best surface.

'Four spots have got to be chiselled on each corner of the stone, and on these spots is placed a steel peg. These pegs are exactly the same height, and by putting a peg at each corner and putting a straight edge at one end of the stones and a straight edge at the other, you had to keep chiselling these spots until by looking under the straight edges the parallels were as near to perfect as your eye could see.'

'The principle was to make your chalk line. We used to make red chalk out of red oxide and plaster of paris. On this line we would rub red chalk and we would get a fellow apprentice to hold one end of the line on one spot at one corner and I would hold the line and keep it taut. If I may dramatise the situation, I would pull the line out and let it fly against the stone, and there would be a nice red line from spot to spot which indicated to me precisely how much granite had to be pitched up with a pitching tool. I

*had to repeat that performance with the chalk line all around the stone, and when the lines were on, the next practice was to get a tool they called a bull set. The Scotsmen used to call it the pokey. It was a big tool about eight or ten pound in weight and it had to be struck with a corresponding weight of hammer. My fellow apprentice used to hold the pokey on the line and I used to do the laborious work by swinging the hammer. By this means we used to pitch the granite up and down those red lines. Now this is the practice of what we call drafting the stone up.*¹

'After having pitched all that surplus granite, the next process was to take your hand chisel a line right round from spot to spot. The next laborious process was to take your punch, and punch down all around the stone and you could see then the original drafting of the stone. Then you picked up your pneumatic tool. Granite cannot be worked with any speed unless you have pneumatic tools driven by compressed air'.

Pneumatic tools, introduced from the United States in the 1890s, had the effect of speeding up operations, although the dust they created led to increasing concerns about respiratory problems.

'You would pick up your pneumatic tool and you would pick up a tool called a four-point, which is a piece of steel split and drawn out to four points and tempered by that highly skilled man, the tool sharp. You would insert this four-point up into your machine and throw the hose pipe over your shoulder, turn on the air, and away she went. The object is to manipulate that four-point and thereby reduce the coarse punching you have done, reduce it still finer down, almost to the finished surface. You must use a straight edge all the time so that by the time you get down to the finished surface, it is fairly level all the way round'.



ABOVE: Bill Grant, drafts up a block of granite. He has completed the marginal drafts on the main surface using both hand and pneumatic tools. The

pneumatic surfacing machines will remove the untreated rock face between the drafts more quickly than he can and with less physical exertion. The marginal drafts served as a reference to the operators of the surfacing machines in the yards. They also prevented any breaking of the edges when the powerful blows of the surfacing machines got to work. The Scots called these machines 'dunters', the Scottish word 'dunt' meaning a heavy blow.



ABOVE: 'After I had drafted the granite up it would be lifted by the electric crane on to a bogey and run out into a section of the yard where the dunters operated'.

The surfacing machines created prolific amounts of dust, so they were positioned outside. *'The machines must be spaced twenty feet apart to allow the regulation air space for each machine worker on account of the dust'*.ⁱ Reg reckoned there were about fifteen operators, although John Gilmore recalled the number of machines provided by Dorman Long was twelve.ⁱⁱ Each machine had a horizontal swinging arm which could be raised or lowered to allow the operator to work at different levels. There was a variety of tools the operator could fix to the cutting head.

'The dunter was worked pneumatically, and a four-point, almost as thick as your wrist the stem of it was, with four big points, would be fitted up into the pneumatic tool of the dunter and the operator would turn his air on and thereby he would work up and down this surplus granite, and wear all the granite down to the drafts'.

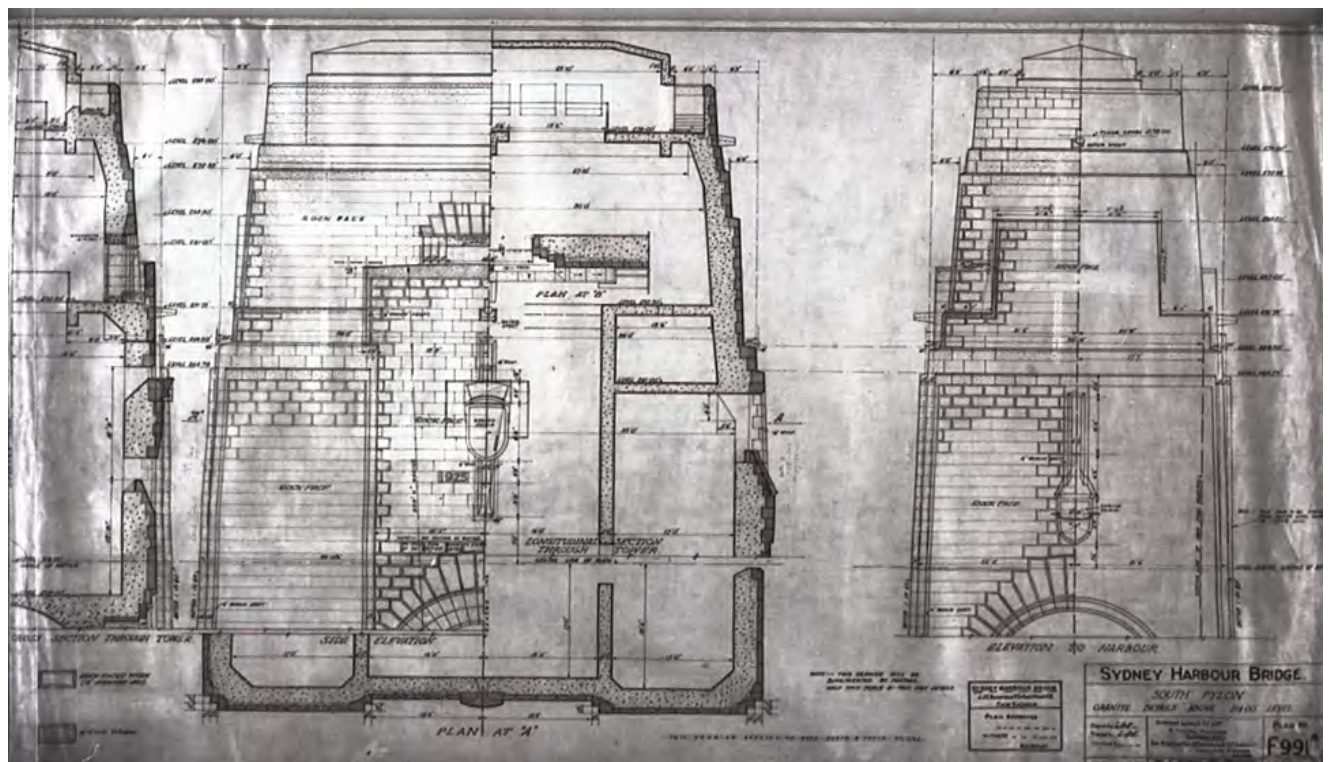
'When the operator got the surplus off, the next tool he would pick up was a four-cut. A four-cut consisted of four blades tempered by the tool smith. Now this tool would be shoved up into the pneumatic tool and the operator would then operate with the four-cut.

¹ John Ogg, one of the thirty masons recruited from Aberdeen in 1926, made a Hessian bag into which he sewed his bush hammers, and to his wife's dismay kept them in their cabin on the *Barrabool*. He wanted to

make sure he had them at hand if required to start work on arrival. He feared there might be a delay in hold luggage reaching the Quarry.

The object was that these four blades would reduce the rough four-pointing work down to a relatively – that is the word – relatively fine surface. That is how most of that work on the Bridge was done, with the four-cut under a surfacing machine’.

RIGHT: Jock Middleton, a crane dogman, poses beside some distinctive stonework destined for the pylons. The photograph is a reminder that not every exposed surface was dressed to a smooth four-cut finish. Much of the stone was left with a rock face finish. Carving skills, too, were required of the masons. When Scottish and Italian masons last worked together in Barre in New England, it was Italian masons who carved the town’s granite statue of Robert Burns. It was also common practice for the Quarry to assemble complex sections of stonework such as arches or ornamentation to test the accuracy of the masons’ work.



ABOVE: Detail on linen of granite work for the top of the South Pylon, retrieved from his garage by Russell Tait, grandson of Scotland’s leading architect of the *art deco* period, Thomas Tait. Dorman Long & Co sought the advice of Sir John Burnet on the architectural features of the Bridge, but it was his senior partner, Thomas Tait, who prepared the detailed drawings. What started life on the drawing board of the office of Sir John Burnet and Partners at No 1 Montague Place, London, made its way in modified form to the desk of Bill Morrison in the Moruya Quarry office.

‘Without them the granite pylons would never have been constructed’



Bob Colefax recalled that *‘the need for a general blacksmith was felt long before a piece of granite had been quarried. Early in 1925 Bill Hoskins was appointed general blacksmith. The next blacksmith appointed was Herb (‘Snow’) Skelton. I remember him starting one sunny afternoon out in the open, with a small portable forge’*.ⁱⁱⁱ The blacksmiths’ shop was eventually situated east of the sheds, between the Quarry face and the river. From its humble beginnings it expanded into a complex of extensions as more blacksmiths, including specialised tool sharps from Scotland, arrived.

Reg had good reason to be well informed about what went on in the smithy. James Crapp, his father, was a blacksmith’s striker. On the back of this photograph which he sent to Ruby Webberley in Aberdeen, he wrote, *‘Dad at 59 years, only man in waistcoat, in front of left hand shed post’*. There was also a brief reference to a love lost: *‘Herbert Skelton, blacksmith, foot on steel rack, tongs in*

hand, broken romance with Ollie, my sister. Both lamented all their lives’.

This same photograph appeared in the 2007 edition of the *Sydney Harbour Bridge Workers: Honour Roll 1922-32* where the date was given as 1925. The caption described the group as *‘Scottish blacksmiths and tool sharps posing with their strikers at the Moruya Granite Quarry’*. However, several of the men arrowed and named are Australian, including Hector Rose, a son of the local police sergeant, and Keith Daley. The date, too, is wrong. Brothers Alec and Bill Lawrie, both arrowed in the photograph, arrived from Aberdeen in May 1926. Reg has also arrowed Bob Stuart. Robert Jackson Stewart was one of four tool sharps who arrived from Scotland in March 1927. The date Reg has written under the photograph – 1928 – is probably correct.

‘There were half a dozen general blacksmiths, most of them Australians’, remembered Reg, but it was the tool sharps who were the key men in the smithy. Blacksmiths were capable, he told Richard

Raxworthy, but the tool sharps were highly specialised: 'A blacksmith cannot sharpen and temper steel like the professional tool sharp.

These tool sharps were the key men of the job. There were about 8 or 10 of them, and without them the granite pylons would never have been constructed'.

The foreman tool sharp was Brown Mackenzie, one of the first Scots to arrive at the Quarry in 1924. *'Mackenzie was a man about eleven stone, dark, thick set fellow, very dour to use a Scottish term. He boasted of nothing, but there was one thing he did boast of: that he used to temper steel and punches which used to stand up to a granite in Scotland called the Brunswick Black. It is highly impregnated with carbon and very, very hard. This man had successfully tempered steel to stand up to the Brunswick Black and that was his boast'.*

The tool sharps did not always get it right. *'Sometimes the tool sharp used to err in his judgement and the tool would either turn out too brittle, and therefore would crack and fly, or it would be too soft. This used to happen, and if it did happen, all you did was throw that tool away into the corridor where there was one mass of*

granite chips. You would throw your tool over there – rejected'.

Reg's high regard for the tool sharps was shared back in Aberdeen where these artisans were held in such high esteem that they were admitted to membership of the Building and Monumental Workers' Association and paid the same rate as masons. That was not the case in New South Wales. When Dorman Long sought to recruit two tool sharps from Aberdeen in 1926, prospective applicants were dismayed by the wage on offer. While masons at Moruya received 3/5d per hour for a forty hour week, the tool sharps would receive a paltry 2/8¾ per hour for a forty-four hour week - a farthing an hour less than quarrymen. The Secretary of the Association sympathised with their annoyance. All he could do was advise them to seek entry into the Operative Stonemasons' Society once they were in New South Wales and work for an adjustment of the rate. *'I understand the firm will put forward no objections to the same rate of pay for the tool smiths as the dressers'.*^{iv} On reaching Moruya, Alec and Bill Lawrie twice applied to join the Stonemasons' Society, and twice they were rejected. On the first occasion they were referred to the Blacksmiths' Society.^v

Editor's Note: Reg Saunders' story and his memories of the quarry workers were recorded in a three part series in our Journal of June, September and December 1913.

ⁱ *The Sydney Harbour Bridge*, Lecture given by Dr John Bradfield to the Institute of Patent Attorney of Australia, 4 April 1930

ⁱⁱ *Address to the Moruya Rotary Club*, John Gilmore, October 1959

ⁱⁱⁱ *Moruya's golden years*, A V (Bob) Colefax, 1967, p25

^{iv} *The Building and Monumental Workers' Journal*, February 1926

^v *Operative Stonemasons' Society of Australia, Minutes*, 24 May 1926

In our September issue we will be having another excellent article from the research of Bill Glennie. It is a detailed account of the Granite Town Public School which existed from 1926 to 1933 to serve the children of the workers.