

## GeoGAS 1990-2000

### Introduction

Rather than give a dry presentation about gas, I thought it might be of more general interest to reveal something of the trials and tribulations of GeoGAS as a consulting company.

This talk is not an advertisement for GeoGAS, neither is it an attempt at crowing about achievements realised. I am giving it for two reasons – the first being, that without GeoGAS, I doubt that such an award would have eventuated, but more importantly to use GeoGAS in providing a viewpoint on the difficult subject of delivering quality technical services in a timely and sustainable way.

Don't get me wrong, I am not saying GeoGAS has reached this halcyon goal. But I think that this account of the pursuit, may be of some use to others who are similarly striving. I know that I would have appreciated these views when I was starting out.

I have been in the business of delivering technical services for all my professional life. Starting in BHP at Newcastle, then at Collinsville for MIM, then with ACIRL and METS and finally with GeoGAS. It is my opinion that the delivery of technical services to a high standard and in a timely and sustainable fashion is rarely achieved. I was certainly miles from it for most of my professional life. As you gain experience though, you edge closer to it.

So, a lot of this talk is really about what makes a service business tick – or not tick. If you run your own consultancy, manage a section of a consultancy business or manage technical services within a larger company, this talk should be of some relevance to you.

First and foremost I would have to say, I am a technocrat. Did I initially set out to create a service business – no! But I have to say that the business side holds far more than a passing interest for me – if nothing else, than for what it can deliver in terms of technical “grunt”. A number of my colleagues, who are essentially one man band consultants have not envied my situation – having to worry about staff, and all the administration that goes with running a company. There are occasions when I feel that life would be simpler back as a one-man band. For the most part though, the experience has been well and truly uplifting. The technical depth and spread we have as a company is far greater than we could hope to generate as individuals. On rare occasions I have had staff worries, but that has been easily outweighed by the general enthusiasm and commitment of the staff.

As GeoGAS staff we have all been through a lot together – not just professionally, but also personally, riding out the highs and lows. I never thought we would become so personally connected, but we have and I believe this concept of “family” is an important element in the company fabric.

Lets get something clear about the prime goal of a business. Is it to maximise the shareholder return? In GeoGAS's case this is an emphatic no. The priority for the business is to meet the life aspirations of its owners and employees. In the case of the owners, it has not quite got there yet....profits and cash flow are critical to meeting that goal, but they are not the goal in themselves. If you get the other things right, good profits and cash flow occur as a consequence, but not as the main driver.

## **Goodbye ACIRL Hello METS**

I left ACIRL in 1988 to start GeoGAS. Like most changes in people's lives, it was far more a burning desire to leave my current employer than it was to start GeoGAS.

As far as running a business is concerned, I really didn't have a clue. I felt a sense of relief and excitement at leaving ACIRL, but in reality, nothing was planned. Advice from people in the industry ranged from "That would be unwise.." to "you are f...ing mad". I always had support from my family.

At about this time METS were looking for a General Manager (GM), and in their desperation, they asked if I would be interested. A joint venture had been created between ACIRL and DOWTY with radio imaging (RIM) as one of the main lines of business, but nothing physical as yet had happened. This was after I had resigned, but before I had served out my notice with ACIRL. One of the arguments put to me was "Well Ray, here's a chance to learn how to run a company at our expense. When that's under your belt, you could start GeoGAS." So I started with METS, hoping to make a genuine go of it.

As GM I reported to a 6 member board made up of 3 senior members from both camps. Captains of industry – I figured that some of their business acumen must rub off. I have to say that I was mightily surprised and formed a view that I hold to this day, that relatively few people really know what building and running a business is all about – certainly a service business. I received a few pieces of advice – "keep your powder dry...", "you have to learn how to manage your board.." – but that was it. I certainly learned to be more sympathetic to GM's who are squeezed between the Board on one hand, and the demands of the business on the other.

Had I known more and been more adept at convincing the board of what it was I wanted to do, I may have stayed with METS and METS may have flourished, but I doubt it, as others that followed in my wake with greater ability and persistence, eventually succumbed.

I did not "keep my powder dry", and I certainly did not manage my board. I gave my three months notice, and on January 14<sup>th</sup> 1990 started trading as GeoGAS.

## **GeoGAS Start Up**

It helps when you are starting out if you get a break. Tahmoor Colliery – under the then GM Rick Davis, gave me a job from day 1. I could not approach anyone while I

was in the employment of METS, so the break provided by Rick was mightily appreciated.

There was a perception at the time, that I knew a lot about gas. The reality was quite to the contrary. People like Ripu Lama and Les Lunarzewski were a long way ahead of me. I had been involved in gas work for the previous 10 years, so I should have known a lot. In some ways I did, but I really had poor hands on experience, and set about to rectify that.

So I was underground most days at Tahmoor, measuring borehole gas flows and trying to understand what was going on. Up to that time, nobody had done it as a matter of routine, and nobody had used the data all that well. That work gave me a good grounding, not just in the measurement process, but more importantly, in getting a good appreciation of what does, and does not make gas drainage work. In those days, standards in all mines were universally poor. Drilling was by rotary methods and holes were not surveyed.

While working hands on is not good for developing a business, at that time, I did not have any such vision. I needed to build some security and feed the family. When GeoGAS started, I had a mortgage to pay off, and only a few grand in the bank. Paul Keating had interest rates running at 17%. I started off on an overdraft, and used some of it to buy a second hand company car.

From the outset, I had two concepts that were to prove important in developing the business. The first was to always move on from the job I was currently doing. That is, I did not try to protect the work I was doing as always being in my domain. I took the view of helping people help themselves. I knew there would always be something else to move on to, and I had enough confidence in myself to do just that.

In GeoGAS, all employees only temporarily occupy their positions (at least that is the mind set). When a new employee starts, I explain this to him or her as “imagine in six months time you are not going to be doing the job you are on now, but that function has to continue after you leave it.” How is he or she going to approach the job? Rather differently than if the person had a mindset of being in that job forever and a day. But more about that later.

The other concept (if concept is the right word), was to ensure that any employee, myself included realised a return for effective effort put in. In ACIRL, we were all on a base salary, and being professionals, were expected to do whatever was required. That is fine, but too much of working in your own time to complete jobs at the very least, leaves a feeling that something is not right. In GeoGAS, staff earn a large part of their salaries through bonuses that are tied to their individual performance. The bonus scheme is a very important part of GeoGAS in more ways than one.

So the work at Tahmoor continued. The importance of being “Johnny on the spot” was well and truly demonstrated, and the hole flow monitoring work, led to work in all sorts of areas. Rotary drilling troubleshooting, borehole surveying, down-hole post drainage design and monitoring, longwall emission monitoring, assessment and prediction, directional drilling including cross measure to in seam drilling, real time

return gas monitoring, mine gas monitoring systems, coring and gas content assessment.

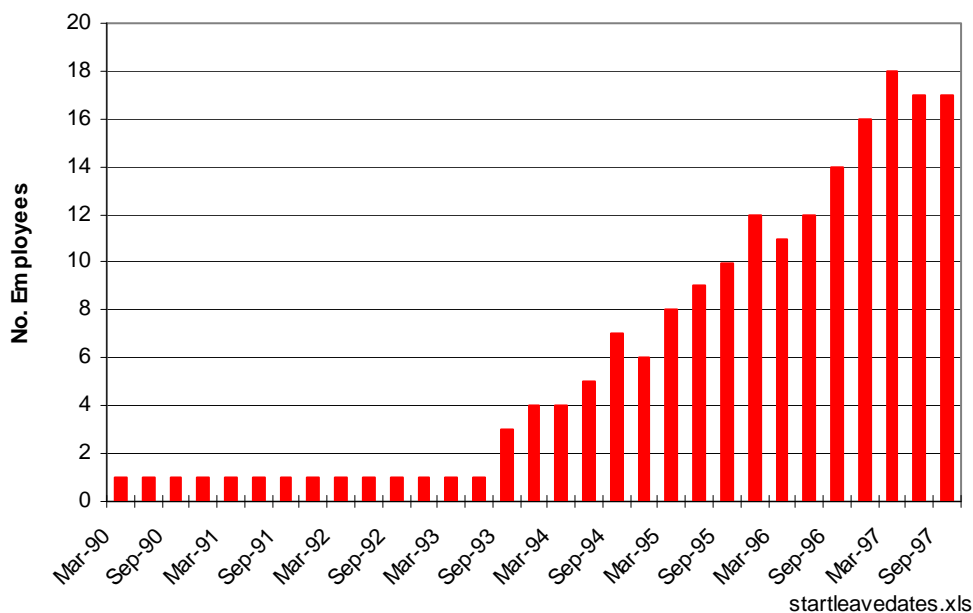
So in a two to three years, I got the grounding I knew I needed. Snippets of work came in from other areas, but Tahmoor was the mainstay. For all intents and purposes, I was more a contractor, than a consultant.

## GeoGAS's Growth Phase

For the first three years, I was a one-man band. I started working out of home, then moved into the University of Wollongong campus where the facilities and corporate image were better. The work-load continued to grow, and I took a big step – I put on an employee. I cannot quite recall what picture I painted, only that Paul Maddocks had the intestinal fortitude to give up a secure job in BHP for the unknown world of GeoGAS.

That was in December 1993, and for the next four years, we experienced a meteoric rise in staff numbers, peaking at 18 full time, permanent staff.

**Figure 1 Full Time GeoGAS Employees to 1997**



So what caused this?

In the market place, we were obviously doing something right. But as the work kept coming in I found myself with a big problem. There were not enough hours in the day. I seemed to be heading at 90 mile an hour for a brick wall. By this time, I had two employees, but realised that the simple act of putting staff on did not cure the problem – in fact it had the potential to make it a lot worse. Not only were you doing what you were doing before, but you had other people to organise.

At about this time, there was a seminar in Sydney given by an American called Michael Gerber. He is author of “The E Myth”. What he had to say, transformed my view of what I was doing, and provided a framework for the development of the GeoGAS. Like all advice, it is far easier to listen to, than it is to implement, but importantly, it gave me something to aim at – and that’s important, even if you never get there.

His main message was to work on your business, not in it. Your main aim had to be to sell your business. Even if you never did, it created a mindset that was completely different to one where your business was something that provided you with a job. In selling your business, you have to create an environment where your business does not rely upon you or any individual. You do not have a viable or at least, robust business, if it depends upon the goodwill of a key employee.

His view was that the business was there to give you life. The reality was the great majority of businesses took the life you had, and my family can certainly appreciate that viewpoint.

In Gerber’s books and seminars, he covers the whole gamut of the business spectrum – marketing, sales, operations, R&D, accounting, administration. These functions are common to any business, from a one-man band to one the size of BHP. The only difference is that a one-man band has to do all of them – and invariably he cannot, so a lot is neglected.

Systems development is absolutely fundamental. A great business has to provide its goods and services to a high standard, when needed, day in and day out in perpetuity. You cannot do that without well-defined systems and training people in those systems.

Systems minimise the discretion of the employee. If you are trying to produce to a high standard, day in and day out, you never will if the employees have too much discretion. That does not mean you choke off innovative thought – the system defines a place for that. Processes and systems are worked out as part of the R&D, and are formally reviewed. The engine room of operations relies on systems being religiously adhered to.

A couple of Gerber’s premises are -

- As a boss or manager, you cannot get anyone to do anything. You cannot motivate people to do good work. They motivate themselves, as a consequence of the good systems and your management. In my business, any time I want to buy in on an issue, I had to think about whether I might have a demotivating influence. Management are usually great demotivators.
- You cannot base your business on extraordinary people. They are too hard to find, and difficult to keep (and often, just plain difficult to endure). Ordinary, but committed employees have their skills leveraged through use of good systems to produce extraordinary outcomes – and at minimum cost.

I have experienced it myself many times, and I have seen it in my employees – that is the amazement at what they find themselves capable of doing. I place a high emphasis on computer skills as part of this leveraging.

A great outcome in the systems approach is that it takes the blame away from individuals. If something stuffs up, whose fault is it? In the first instance, the system needs to be looked at to see if it adequately covered the circumstance. We are assuming here of course, that you have employed committed staff.

If you have good systems in place, running a company is easy. The systems essentially run the company. Management's role becomes one of ensuring the systems are followed, fixing problems in the systems and improving them. You leave the staff alone to do what they know how to do. Life's easy.

Before you get into developing systems, you need a vision of what the company will look like "when its done". By "when its done", Gerber means the creation of a "turn key" prototype. Once you have created a prototype, it is relatively simple to replicate it – be it through the setting up of branch offices, or franchising.

How has all this affected GeoGAS?

With Gerber's approach ringing in my ears, I produced my first and best development plan in July 1995. At that time, we only had an office in Wollongong. I had moved out of the University due to space problems to our location in Kembla Street. It was clear that in the intermediate term, Wollongong did not look too good. We had been stung on several occasions by mines suddenly appointing administrators and us being one of a pool of unsecured creditors.

The idea was to develop GeoGAS to its potential, and the employees to theirs. The following is taken from that document:

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The key ingredients in the development plan are:

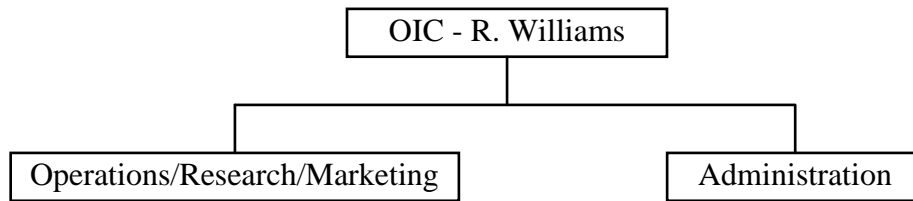
- Setting out how we do business.
- A heavy emphasis on systems development.
- Progressive development of a company structure built around functions, not people.
- Additional staff recruitment and training and purchase of capital equipment.

December 1997 is targeted as the date for when the development goal is reached. That stage of development will be marked by:

- No reliance on R. Williams for any part of the business.

- Documented systems for technical and non technical functions covering procedures, standards, safety. This is to cover virtually every facet of the company's operations - even to the extent of having procedures to define new procedures.
- Offices functioning in Mackay, Muswellbrook and Wollongong.
- An annual turnover in excess of \$XXXX with an XX% profit margin.

The company structure at that time was –



Ventilation - M. Blanch

Gas Drainage/Gas Emission/Drilling - R. Williams

Software Development - R. Williams

Gas Laboratory - R. Chown

Geological Services - R. Chown

Monitoring - M. Slater

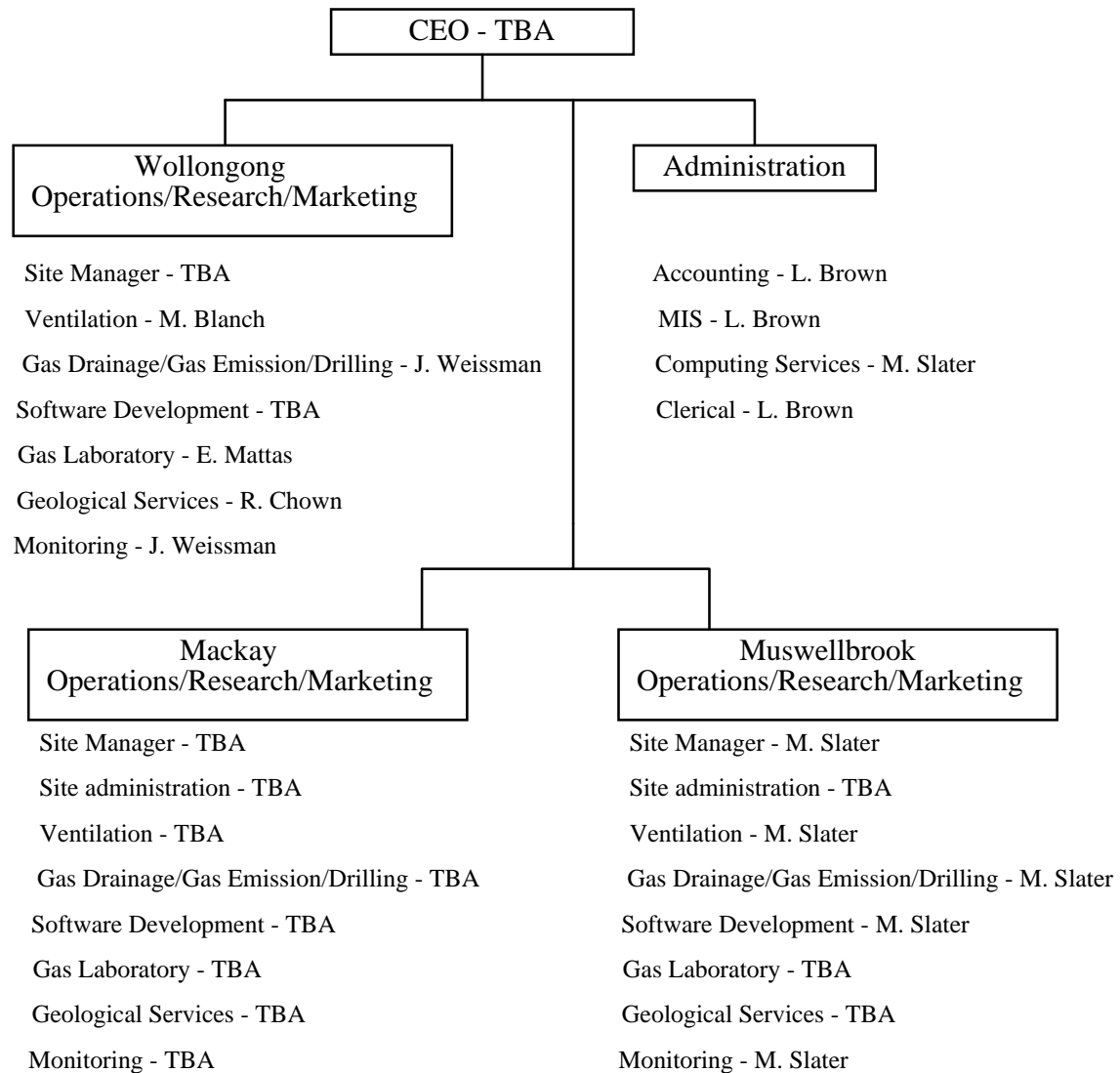
Accounting - L. Brown

MIS - L. Brown

Computing Services - M. Slater

Clerical - L. Brown

The final target structure was -



The document contained a lot of information, that may sound like motherhood statements, but they are as important now as they were then:

- Focus on results not work *per se*. Results are the only thing that matters.
- Marketing is 90% listening to the problems clients are having and 10% telling them what you can provide.
- Everyone (employees, customers, lenders) needs to perceive they are in control.
- Being in a position to respond with absolute predictability every time is where good systems come in.
- ....we need to develop prototype systems for Wollongong that can then be easily transferred to other sites with complete confidence in the outcome.

- Be close to your client.... The setting up of district offices is largely to facilitate this development.
- Develop a comprehensive range of technical services that compliment each other.
- Are we consultants or contractors?
- Business is to be conducted to the highest standard of ethics. The whole edifice is built largely on trust and a sense of fairness. It is also company policy not to seek advantage by denigrating competitors. In actual fact, the majority of our “competitors” are close associates.
- Provision of a safe work environment is a basic right of any employee.
- If the system is good, the work is easy. If the work is hard, we need to look for a better system. A good system frees us to concentrate on doing the things we want to do.
- As far as possible, the system needs to remove discretion at the work place. A lack of a system relies on an employees discretion to act appropriately all the time - an impossible task. If his actions are scripted through the system, the result becomes one of finishing the job to a high standard, in a completely predictable manner, and with minimum effort.
- Consulting jobs are more difficult to systematise, but to a large degree, it can be done.
- It is a good time to prototype a system while doing an actual job.
- Organisation charts show the company hierarchy in terms of job functions, NOT people. All of us hold a current position in the company. We can only move away from that current position (ie develop a career path), by ensuring that the position does not rely on us - at least not indefinitely.
- The key to (upward) mobility within the organisation chart is the systems that are attached to each job function.
- A consultant provides three things – Direction, Clarity and Momentum.

## **What Has Happened Since Then**

By the December 1997 target, a lot of the goals were achieved:

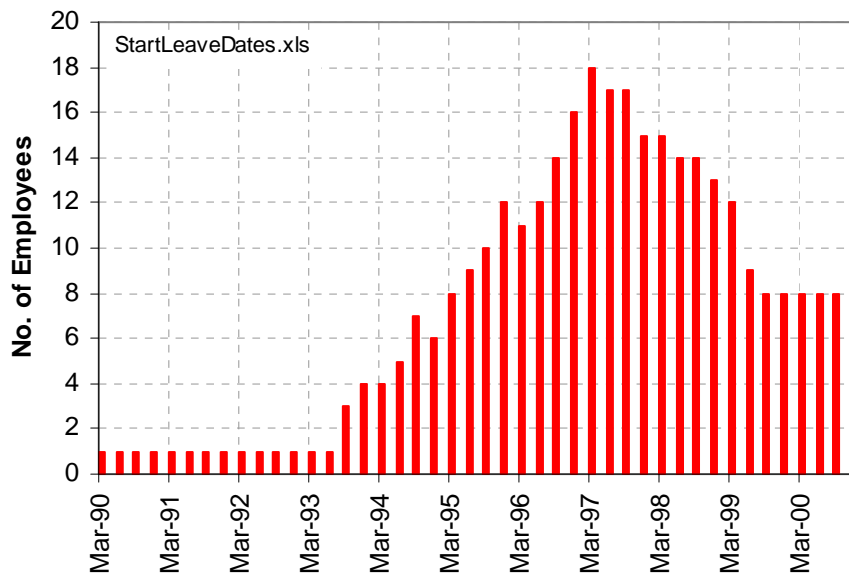
- The Hunter Valley Office (HVO) was set up and blossomed under Dartbrook Mine, this source peaking toward the end of 1997.
- Queensland became an important part of our business, with the establishment of the Mackay office.

- The financial objectives were essentially realised.

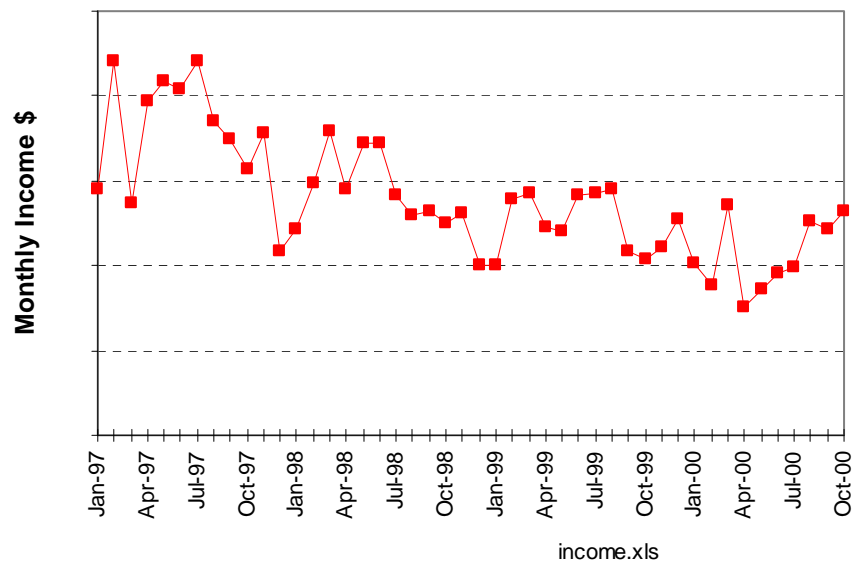
Depending upon how you looked at it, systems development had reasonably progressed, but was nowhere near the level of detail I had originally envisaged. The gas laboratories were in the best shape.

From January 1998 while we continued to do better and better work, as a business we went into decline, as indicated by falling staff numbers (Figure 2) and turnover (Figure 3).

**Figure 2 Full Time GeoGAS Employees**



**Figure 3 Total Income**

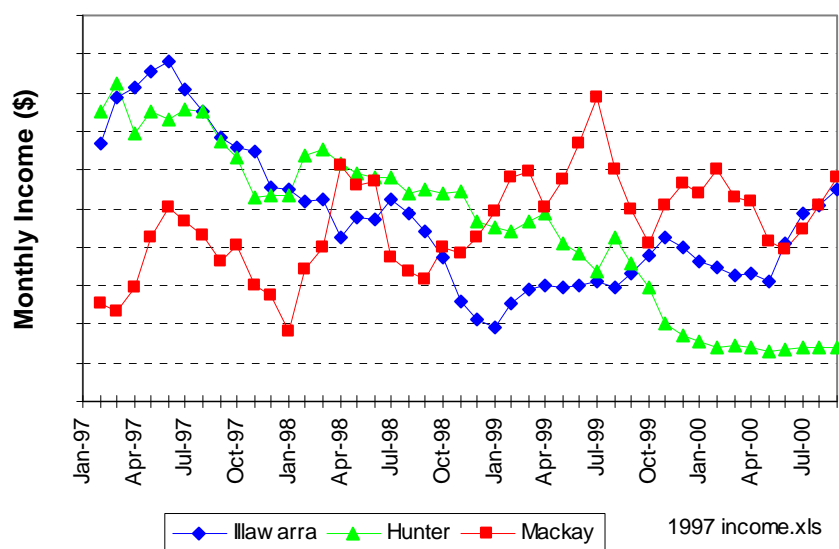


While one staff members' leaving was expected – he had been with us for one year on secondment from CSIRO, other reductions were the result of staff drifting into other employment, and an increasingly poor outlook in the coal industry. These reductions were relatively painless for all concerned, and in some ways I was relieved, as I had probably over extended our capacity to internally train people. Right when I had peaked in staff numbers, the coal industry started in decline.

For the first 7 years, it had all been rather easy, with continuing growth and no real dramas. We were now entering a “character building” phase, which would see further rounding of my business “acumen”. The biggest difficulty was in painting a picture for the future. It was hard to see ahead in a climate of coal industry contraction. To some extent, the shutters went up and I was in damage control.

The down turn was worse in the Illawarra, but also evident in the Hunter Valley (Figure 4). Mackay had always been volatile, but through it all, it continued to grow. (The figures are not just the result of external demand, but also reflect internal staff reductions).

**Figure 4 Income According to Where Work Originates  
Three Monthly Moving Averages**

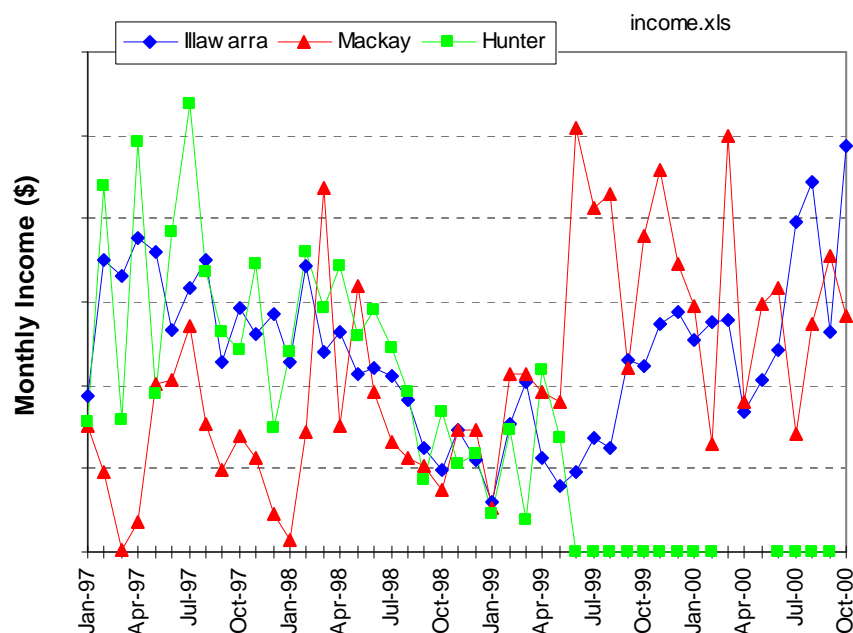


The industry down turn is probably best reflected in gas laboratory income, where for a period from September 1998 to January 1999, it was at a low ebb in all districts (Figure 5).

This reduced activity resulted in closure of the Hunter Valley laboratory in June 1999. Dartbrook, which was the mainstay of our Hunter Valley operation, were also rationalising their costs. The result was a decline in staff from four to the present level of one.

The most rapid reduction in staff around July 1999 was in response to this reduction in the Hunter Valley. While affected staff were offered positions in Wollongong and Mackay, none chose to accept relocation. All however, readily found good alternative positions.

**Figure 5 Total Income From Gas Laboratories**



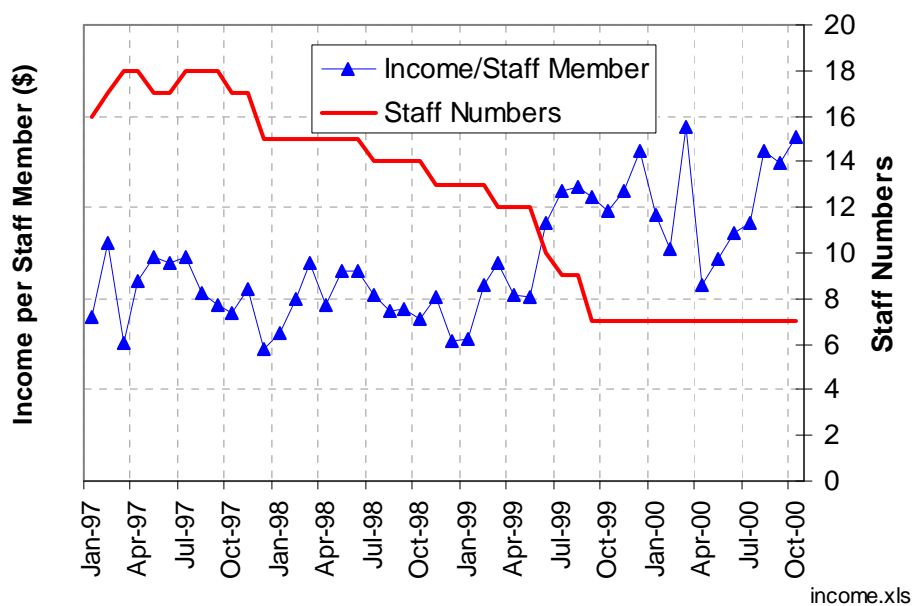
Since September 1999 we have stabilised our staff at 8. The Illawarra gas laboratory, which had been in decline for a long time, began a steady climb back, definitely aided by picking up all the work that was previously covered by the Hunter Valley Laboratory. We are currently understaffed in Wollongong due to the tragic death last October of Ben Gall, our Gas Laboratory Supervisor.

Combined with improving consulting work (which surprised me), the Illawarra has bounced back in both gas testing and consulting.

While the gas laboratory in Mackay has been a good move, it has been difficult and costly trying to place experienced staff there. A manager transferred from Wollongong as a new employee, left the company after 11 months. His replacement transferred from Wollongong left after 2 years in Mackay. We currently do not have any permanent senior consultants in Mackay and I am not actively seeking such an appointment.

In line with most other companies, we have made more efficient use of personnel, with an average 38% increase in the income per staff member being realised since June 1999 (Figure 6).

**Figure 6 Staff Income**



## Achievements

GeoGAS's overall achievement has been in developing the capacity to service a broad spectrum of gas needs throughout the coal industry. Our market reach is wide, as is our market share.

I believe it has provided fulfilling employment for its staff. In a small company like GeoGAS, the staff have a considerable ability to influence their own destiny, whereas in larger company's staff can feel helpless victims of circumstance. They operate very closely as a team. The concern and mutual assistance shown by employees internally is translated externally as well.

In spite of our relatively low staff levels, we are functioning at our historical best efficiency, with greater experience and tools at our disposal.

The fast desorption gas content test and its acceptance by industry has to be our most important development. At its peak, four laboratories were set up - two in New South Wales, one in Queensland and one in New Zealand. The method was born out of a need for rapid turnaround in compliance core testing. It is also widely used in exploration work, in conjunction with sampling strategies and data evaluation techniques – such as defining of “gas domains”.

The internal importance of gas content testing goes well beyond the commercial value of the test itself, in that it is frequently the lead-in to higher-level gas and ventilation work.

Purchase of the gas reservoir simulator SIMED II has been important and the basis for development of quite novel approaches to coal mine gas emission and coal bed

methane modelling. That purchase, and experience in using the software gave our technical base the rounding it needed.

We have come up with a rigorous approach to gas reservoir assessment, in combination with Multiphase Technologies Pty. Ltd. After a long bedding-in period, we are doing increasingly more laboratory testing for gas sorption isotherms.

Those developments have enabled us to make good progress in developing a coalbed methane arm to the business. We find that our gas reservoir knowledge and testing for coal mining applications is directly transferable to coal bed methane.

Because we do both ventilation and gas emission modelling, we have been able to more closely integrate the two – the necessary iterations being a much easier task when done under the one roof.

Our staff movements have stabilised. We have all amassed a lot of experience, and I am pleased to say that the staff are able to handle at least 90% of the technical nuts and bolts. The notion that GeoGAS relies on R. Williams is rapidly diminishing - other than for overall direction.

We are increasingly working through alliances with companies such as Coalbed Concepts Pty. Ltd. and D.A. Casey and Associates Pty. Ltd. and have a good working relationship with CSIRO Divisions in three states.

## **The Future**

There has been a deliberate shift away from contracting functions to a consulting base built on the delivery of “high end” technologies such as gas reservoir modelling. From a business point of view, we will concentrate on what we do best, and by and large minimise head-to-head competition in mature markets.

Gas content and isotherm testing remains an important base load of work and investment and research will continue.

Renewed emphasis will be placed on training and systems development. In that regard, I see a somewhat reduced, direct, face-to-face role in consulting for myself, with my energies increasingly directed toward internal training, systems development and research.

With the coal industry showing signs of recovery, and our coal bed methane work bearing fruit, I expect to be looking to place new staff early in the New Year. Unlike the arguably too rapid increase in staff that occurred from 1995 to 1997, it will be more measured and considered. My first placement is likely to be a Geologist/Senior Geologist in charge of gas laboratories, with responsibilities covering definition of gas reservoir parameters. I do not expect to find someone with experience in this area, but will look for a person who has the enthusiasm and ability to learn.

The potential in gas is greater than I believe we can address through internal growth. I see the company “reach” increasing through continued and closer associations with

like-minded companies and possibly even acquisition, merger or joint venture. Protection of employee interests is a paramount consideration.

I want GeoGAS to endure and prosper long after I am out of it.

The end to this story is some way off. The basic premises in my 1995 strategic plan still hold true.

## **Acknowledging Our Favourites**

We have a lot of good clients and colleagues and have made a lot of friends. The following companys, and more importantly the people in them stand out as having given GeoGAS and me personally, a lot of heart and enjoyment –

Anglo Coal Australia Pty. Ltd. – Frans Bos

CH<sub>4</sub> Pty. Ltd. – Dave Mathew

Coalbed Concepts Pty. Ltd. – Scott Thomson

Coal Operations Australia Ltd. – Beau Preston, Keith Bartlett

CSIRO – Abou Saghafi

D.A. Casey and Associates – David Casey

Dartbrook Mine – Richard Holland, Rodney Doyle, Roy Moreby, Dave McLean, Ron Cassidy

North Goonyella Coal Mines Ltd. – Paul Cuddihy (since resigned)

McElroy Bryan Geological Servcies – Kerry Whitby, Rowan Johnson

Tahmoor Colliery – Graham Pryor, Bob Newman, Peter Wynne, Rick Davis (since resigned)

The people that made it happen –

**Current GeoGAS Employees:** Dave Ashelford, Eugene Yurakov, Geoff Williams, Michael Williams, Irene Watson, Mike Slater, Nicki Williams, Stacey Shaxson

**Past GeoGAS Employees:** Ben Gall, Colin Minchinton, Daryl. Gouldstone, David Walker, John Whittaker, Graham Fallon, John Weissman, Kevin Meaney, Lyn Brown, Mark Blanch, Mike Ogilvie, Michael Reay, Frank Mattas, Paul Cuzen, Paul Harrington, Paul Maddocks, Russell Chown, Rao Balusu

Most of all I am indebted to the following Williams':

Robyn, Geoffrey, Michael, Catherine, Ray (senior) and Alice.