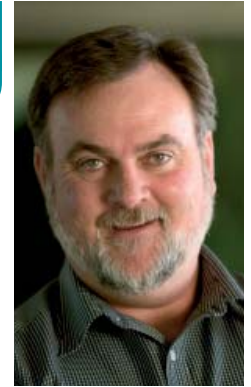


issue 3 - winter edition 2009 : a quarterly newsletter for our mining neighbours and local communities

mine managers message



Bill Knight - Manager of Mines

It was a month of celebration in April with our Willowdale Mine and Wagerup Refinery recognising 25 years of operations. It has been a great 25 years and I would like to share some of the journey with you.

April 1984 was the official opening of the Wagerup alumina refinery, however production commenced at Willowdale Mine in late 1983 to ensure bauxite stockpiles were available when Wagerup opened and that future mining areas were being developed.

Everything had been ready to go for over two years with construction of the mine and refinery completed in 1981, but the alumina market was oversupplied at the time, so the opening of the mine and refinery was delayed. Eventually the decision was made to start production.

Like all new operations, there were challenges. Willowdale had a lot of the "handed down" equipment from Alcoa's other WA mines and keeping this equipment running was a challenge. We were fortunate that we had a number of experienced fitters who succeeded in maintaining the equipment. Things weren't easy with the original 371 overland conveyor belt as it would never track straight.

The first ore was higher in organics than the ore from our other mines. This was something that had the potential to

adversely affect the refinery efficiency so significant sections of ore planned for mining was deferred until Wagerup built the second unit in the early nineties. Blasting the caprock in a way that minimised impact to neighbours was also an activity that people spent many hours trying to improve, and this work continues today.

The first Willowdale crusher site was mined out in by 1988 and the crusher was relocated to the Arundel area. This was a memorable event as it was the first major crusher move at Willowdale and it saw the whole Willowdale workforce located together in the one area for the first time. This was the period when I had the privilege of managing the Willowdale mine. I remember the rosters were eight hour days with two additional afternoon shifts per week. If I wanted to speak to the whole workforce this could be done at the afternoon shift change on one of these days. It certainly made communication a lot easier.

From the very early days, Willowdale employees came with a spirit of adventure like all pioneers taking up a new challenge. They set the standard for all that were to follow them.

From these original employees came the Willowdale culture that we still see today. Quite a few employees transferred from Jarrahdale, and some from Del Park and Huntly, but there

were many new employees – some from farming backgrounds and others who were employed in local earthmoving operations and others from north-west mining operations. Diverse backgrounds, some with bauxite mining experience, others with none. Together they pretty quickly worked out the "Willowdale Way".

There was a pride that quite rapidly engulfed this new team - and it was one team. The renowned "Goanna Club" was soon born.

Willowdale people have always been motivated by a challenge, proud of their workplace and supportive of their workmates. This spirit is the reason that Willowdale is now considered part of the world's leading bauxite mining operation. People come from all over the world to see our mining operations and rehabilitation.

I would like to congratulate all of our employees and thank all who have contributed to this incredible story of success.

willowdale celebrates 25 years!



An employee family and mine neighbour day was held on Saturday 18th April 2009 to celebrate Willowdale Mine's 25th Anniversary. The celebrations included mine and workshop tours, a sausage sizzle, a small presentation to 25 year employees and a big birthday cake! Around 130 guests attended the day.

Top : The 25 year employees were given a small presentation to recognise their commitment.
Left : Employees had the opportunity to show their families around where they work.



phascogales return home



Two phascogales (small, carnivorous, tree-dwelling marsupials) have returned to their home in the jarrah forest after being in care since late last year.

Rescued from a fallen tree by Willowdale Mine environmental technicians Kylie Walmsley and Kate Doherty, the baby phascogales were successfully reared by Mandurah Wildlife Rescue. Students from St Joseph's Primary School in Waroona visited Willowdale to witness their release into a nesting box that was placed in an area near where they were found. Kylie said "I was delighted to see these phascogales released and the students watched with excitement as the phascogales scurried into their nesting box and new home".

The students took the opportunity to tour Willowdale Mine and learn more about Alcoa's rehabilitation and the work Alcoa does to ensure the return of wildlife to the jarrah forest.



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a day in the life of an alcoa research scientist (ecologist)



by Crystal Lowe (Mining Communications Officer)

pre-mining fauna surveys in a future mining area

During March, I was fortunate to have the opportunity to join Dr Vicki Stokes (Research Scientist – Ecologist) and Rod McGregor (Project Officer - Hydrology & Dieback) in the forest as they completed pre-mining fauna surveys in a future mining area at O'Neil that is to the north-east of the current McCoy crusher region at the Huntly mine.

Pre-mining surveys provide baseline information about fauna communities and threatened species that Alcoa takes into consideration during mine planning in order to minimise and monitor the environmental impact of its mining operations.

In designing the monitoring program and selecting the fauna monitoring sites, Vicki and Rod used a standardised approach to ensure consistency and allow comparison of data both between sites and over time.



chuditch



as part of this survey, six sites were selected:

- Three sites in healthy upland jarrah forest (typical of forest that is mined),
- Two sites in stream-zone vegetation, and
- One site in heath that is a unique vegetation community in the area.

at each site, four types of traps were used:

including pit traps, Elliott traps (an elongated aluminium box with trap doors at each end), and cage (Chuditch type) traps. Vicki and Rod bait the traps using universal bait - a combination of sardines, peanut paste, vegemite, rolled oats and vegetable oil. The chuditch type traps were baited with "stinky" chicken.

My day out with Vicki and Rod began at 7:30am. At the first site, we had a Chuditch in a cage trap. This particular chuditch was a recapture, meaning he had been trapped previously that week. He must have liked what he tasted!

The Chuditch, or Western Quoll, is a medium sized (about the size of a cat) meat eating marsupial found in Western Australia. They weigh around one kilogram,

have pointed faces, large rounded ears and a white spotted coat. In the early 1990s the Chuditch was endangered. Thanks to the success of the Western Shield fox baiting program, particularly Operation Foxglove that was funded by Alcoa, the Chuditch population in the Jarrah Forest is recovering well and Chuditch are now considered only vulnerable.

I was excited to have seen the Chuditch and visits to the other traps revealed a mardo (marsupial mouse), a bearded dragon and several napoleon skins. Like many other West Australians, I had never seen any of these animals in the wild!

My day with Vicki and Rod gave me an insight into just part of Alcoa's premining fauna survey program. Other parts of the survey are undertaken in Spring and include searches at each plot to record less mobile species (e.g. those under rocks and logs). Frog calls are also monitored in spring to identify the presence of each species.

I was fortunate to see many native animals and it was an enjoyable day, however I think I'll stick to my office job for the moment!



bearded dragon



mardo



monitoring blast noise

Our first edition of Alcoa Mining News published in November 2008 introduced Alcoa's new Neighbour Relations staff, Fran Luke and Beth Butler. Over the past six months, they have been very busy, and you may have seen them out and about in the community. One of their many duties is to understand the impact on neighbours during blasts, and work towards minimal disruption. Blasting is used at both Huntly and Willowdale mines to break the caprock layer which is a hard concrete like layer covering the gravel bauxite layer beneath. These two layers both contain alumina and are mined once the caprock is broken.

When preparing for a blast, a predictive computer model is run to assess if the conditions will ensure the blast is within required noise limits. This model incorporates the mine pit location, current weather and atmospheric conditions, and the locations of neighbours and communities. The model predicts the direction and magnitude of the expected noise impacts.

Alcoa applies internal blast noise limits which are more stringent than the Government regulatory standards. Each blast is monitored at locations predicted to be most impacted by the computer model, to check noise levels from the 'pilot shot' and to confirm compliance during the main blast.

Alcoa's blast noise monitors are Alcoa staff, equipped with high-tech Sound Level Meters. These monitors are set up close to neighbouring properties and communities where the greatest impact is predicted. You therefore might see an Alcoa staff member monitoring a blast near your property or in your town from time to time.

Monitoring locations are dependent on the predicted impact. Alcoa is continually working to improve its blast technology; this leads to a reduction in the impacts on the local community. The location of monitoring points will vary with each blast, and over time.

If you would like more information about Alcoa's blasting techniques, noise or monitoring, please contact Fran Luke or Beth Butler, Alcoa's Neighbour Relations Officers (contact details back page).



Blast Noise Monitoring occurs in Dwellingup from time to time, dependent on the location of the blast and weather conditions.

about alcoa's operations: pre-mining surveys

alcoa carries out pre-mining flora, fauna and heritage surveys, and dieback mapping ahead of mining in a new crusher region

flora surveys

Flora surveys are completed in future areas of mining and provide mapping of the forest based on different vegetation communities. Havel site type mapping is the classification system that is followed, as this is the technique most widely used in the forests of south-western Australia.

Flora surveys map the various vegetation communities and identify specific plants that may be rare or important and that may require protection.

These surveys are completed by consultants who have extensive experience in vegetation mapping in the Jarrah forest.

fauna surveys

Planning for future mining operations includes consideration of the potential impacts on forest fauna and ways to minimise or mitigate any impacts. Alcoa surveys birds, mammals, reptiles and frogs within the proposed new mining areas several years in advance of mining activities. There is a special emphasis on the distribution and abundance of any locally occurring species officially listed as either rare or specially protected under the WA Wildlife Conservation Act or in any category under the Commonwealth Environmental Protection and Biodiversity Conservation Act.

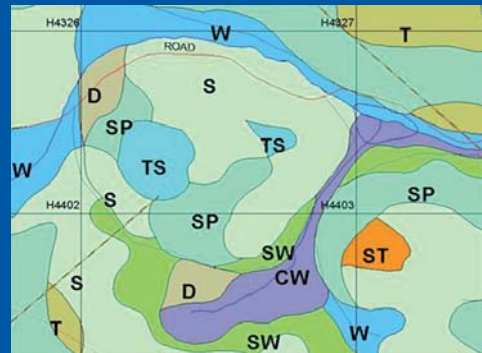
Surveys are limited to vertebrates because the lack of information available for most invertebrate groups severely limits the number of specific recommendations which can be developed.

The objectives of pre-mining surveys are to:

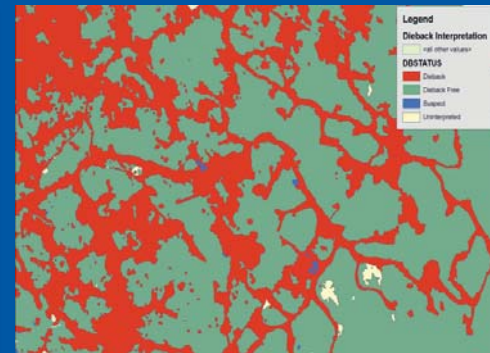
- Provide baseline data to evaluate the conservation significance of areas both in a local and regional context, and against which any impacts can be detected,
- Provide mine planning and rehabilitation options that minimise potential impacts,
- Determine specific habitat requirements for fauna, and
- Sites established for pre-mining fauna surveys may become permanent monitoring plots for Alcoa's Long-term Fauna Monitoring Program.



Alcoa's Aboriginal Heritage Predictive Model uses environmental features to determine the likely locations of significant Aboriginal heritage sites.



Example of a vegetation map. The different colours and letters indicate different Havel site-vegetation types.



Dieback mapping is undertaken ahead of any mining related activities and re-checked regularly.

aboriginal heritage surveys

Alcoa undertakes Aboriginal site surveys at the earliest possible stage to enable Aboriginal heritage considerations to be an integral part of the mine planning process.

Under the Aboriginal Heritage Act and Alcoa's Completion Criteria, Alcoa has an obligation to avoid disturbing Aboriginal sites. To meet these requirements, Aboriginal heritage surveys are carried out in the mining regions to identify significant sites. The results of all surveys are communicated to the Department of Indigenous Affairs.

Alcoa has developed a heritage predictive model that analyses environmental data such as the location of stream zones, topography and granite outcrops to predict where Aboriginal heritage sites are most likely to be found. This model allows field survey teams to target the areas that are most likely to contain Aboriginal heritage sites and artefacts, maximising the effectiveness of the field surveys. Local traditional owners were involved in the development of the model. Field surveys are completed by Archaeologists and Aboriginal custodians. Young aboriginal people (trainees) are encouraged to be involved in these surveys by aboriginal elders.

european heritage

As part of the mine planning process, Alcoa identifies the location of any known European Heritage sites. Mine planning takes significant heritage sites into account.

Alcoa provides funding to the Department of Environment and Conservation and Alcoa Forest Enhancement (DECAFE) Committee to use on a range of projects, including those which enhance the heritage values of the forest, such as repairs and maintenance to timber railway bridges, and maintenance of facilities at old mill sites.

dieback mapping

Dieback, scientifically known as Phytophthora Dieback, is a disease caused by *Phytophthora cinnamomi* – a microscopic organism which is a plant pathogen that causes root disease and plant death by cutting off the plant's supply of water. It is thought to have been inadvertently introduced to Western Australia by the early settlers and has since become widespread in the Darling Range and Swan Coastal Plain areas, threatening biodiversity.

Dieback interpreters, accredited by the Department of Environment and Conservation map the occurrence of dieback symptoms in forest areas in which mining is planned. Dieback Hygiene maps produced by the interpreters show the dieback status found during field inspections. Before Alcoa's field operations (drilling and clearing) are carried out, areas for which dieback mapping is more than 12 months old are rechecked for disease spread and new infections. Boundaries marked in the field are maintained prior to grade control drilling, until the soil is removed down to caprock and the rock broken by ripping or blasting. After soil is returned to a rehabilitated area, dieback boundaries are once again marked in the field.



alcoa providing assistance to victorian bushfires

Alcoa is widely recognised as a world leader in forest rehabilitation, and was recently approached to use our experience to assist with assessments of forest damage and the development of rehabilitation programs for the areas surrounding Marysville following the devastating Victoria bushfires.

Carl Grant, Mining Environmental and Community Manager travelled to Marysville earlier this month to share his expertise in fire ecology and forest rehabilitation with the Marysville and Triangle Development Group, to determine which forest areas will require rehabilitation and which are likely to regenerate on their own.

Carl Grant reports "Despite the intensity of the fire, I believe that the majority of burnt forested areas around Marysville will recover without rehabilitation as they are very resilient. However, there is potential for significant erosion in these areas and this will need to be monitored during the coming winter months."

Whilst Carl was in Marysville he had the opportunity to meet with locals who have been affected by the fire. "I was overwhelmed by the positive attitude of the Marysville residents and the generosity of the volunteers in the face of such a tragedy. I wish the people of Marysville and surrounding areas all the best as they live through what is going to be a long and tough recovery period".



Carl Grant and Graeme Brown from the Marysville and Triangle Development Group inspect the recently opened temporary accommodation in Marysville.

suggestion scheme

Alcoa has an employee suggestion scheme which encourages all employees to look for improvements in their own work place. Since the implementation of this scheme, the suggestions have helped Alcoa improve their business in areas such as safety and efficiency.

A few winning suggestions from our mining operations in the past few months include:

- Shane McCorkill who suggested lubricating the hinges on the McCoy access security gates. Lubricating the hinge on these gates was a simple suggestion to reduce the chance of sprains and strains.
- Rick Demark who designed and fabricated a tool to safely remove air filters on the L8 drill. After three attempts Rick successfully designed a tool that safely removes the filter with ease and eliminates damage to the filter.
- Steve Leonard who made a suggestion to have loaded trucks parked in a pit at shift change to minimise lost production time. Steve's idea was to have a few loaded trucks parked up close to the crusher at the end of each shift, to supply to the crusher as soon as the operators commence their shift. This simple idea has reduced empty wait time in the trucking fleet and resulted in higher utilisation of the crushing system.

Keep up the good work mining employees!

alcoa on the trail with munda biddi



Mountain Bike enthusiasts enjoying the Munda Biddi Trail.

Alcoa has been a proud partner of the Munda Biddi Trail Foundation for a number of years and we are pleased to announce that Alcoa and the Munda Biddi Trail Foundation have just entered into a three year agreement making Alcoa the premier partner of the Trail.

Alcoa partners with local communities on a wide range of

community programs, projects and events, with a focus on building stronger and more sustainable communities. Alcoa's partnership program focuses on five areas:

- Safe and Healthy Families and Children,
- Future Leaders of Industry,
- Conservation and Sustainability,
- Building Stronger Communities, and
- Arts for Everyone.

Safety is a core value at Alcoa and we aim to work in partnership with the community to reduce injury, enhance wellness and create a safer and healthier future for all.

The Munda Biddi Trail is an excellent example of a project that encourages people to get out and be active whilst having fun. It is a project which is accessible to a wide range of people from children to adults, and those that like to take things at a leisurely pace through to the keen athletes.

Not only does the Trail promote a healthy lifestyle, but it is also an important asset for the communities and towns that it passes through, such as Dwellingup. The Trail brings tourists into local

towns which provides a boost for their economies and makes them more sustainable.

It is for these reasons that Alcoa is proud to continue to be a partner of the Munda Biddi Trail Foundation.

In addition to this partnership, Alcoa also provides funding to the Department of Environment and Conservation and Alcoa Forest Enhancement (DECAFÉ) Program which funds a range of projects, including projects in the Northern Jarrah Forest that enhance nature conservation, recreation, landscape or heritage values of the land and engender interest, enthusiasm and support in the community.

Alcoa would like to congratulate the Munda Biddi Trail Foundation on the recent opening of the Collie to Jarrahwood section of the trail and their launch of the volunteer program, which Alcoa is proud to be a part of – adopting the Murray to Nanga section of the trail.

We look forward to continuing to partner with the Munda Biddi Trail Foundation into the future and seeing the Trail continue to grow towards Albany!

celebrating our 40 year employees - graeme roberts (affectionately known as grumpy)

Brief description of yourself (name, hobbies etc)

Grumpy by name and sometimes by nature. I was given the nickname Grump by my grade one school teacher and it has stayed with me.

My spare time is spent playing golf at Serpentine Golf Club, fishing in my tinnie (mostly for crabs and crays). Maureen (my wife) and I are West Coast Eagles members. Maureen gets to most home games however I miss some as I work every second weekend (I don't have any problems getting someone to use my ticket). We went to the AFL grand final in 2005 & 2006 to support the Eagles. The 2005 grand final was not so good, but 2006 was great!

We like to travel (mostly in Australia) as much as possible. We are planning a long term trip around Australia in 2011.

Brief description of your job role(s) over the past 40 years?

I started at Jarrahdale in 1969 in the mobile workshop as a Trades Assistant for a short time until I was transferred to the survey department in 1970. I worked in a number of roles at Jarrahdale, Del Park, Huntly and Willowdale in that time. In 1986 I transferred to the Jarrahdale production department where I did relief work for the Environmental Assistant when they were on leave, and I also looked after the blast noise at Jarrahdale where we had just introduced remote noise monitors at neighbours properties. We had a new 10 megabyte computer to run the monitors from. I had no idea how to work a computer and I went to night school to learn how to use them (I still can't use them!).

In 1990 I began relieving the foreman's role at Jarrahdale. This is when I made the noise as blast foreman, instead of monitoring it. Towards the end of Jarrahdale's life (1998) I ran a production crew which was 50% Alcoans and 50% contractors, as a lot of Jarrahdale's employees had transferred to Huntly and other sites.

My last shift at Jarrahdale was on Christmas Eve 1998. I transferred to Huntly on the 1st January 1999 although I spent a few shifts with Terry Robbins and Brian Quigg getting to know my way around Huntly, before I took over Brian Quigg's job at Huntly.

I spent some time as production coordinator at Huntly's White Road Crusher Region but I've stuck with supervising a blast crew since then.

Why you believe you have stayed with Alcoa for 40 years:

I've stayed this long because Alcoa has good working conditions, it's been close to where I lived (until my move to Huntly).

Your favourite memory of working at Alcoa?

My best years were as a young bloke when we used to go to work and have fun. Hop onto machines to move them if they were in the way to do a pit pick up (sometimes they were not in the way but I still moved them).

Getting promoted to a monthly staff member was always my ambition; unfortunately lots of the perks that went with it were lost about the same time.

We had a guy we called the Fonz at Jarrahdale and he always had us

in stitches. One day his car broke down in the middle of the dieback car wash, and he had his doors open and bonnet up. The young guy next in line to use the wash (Kim Horne who is now Alcoa's WA Environmental, Health and Safety and Human Resources Manager) called Fonz over to his car knowing that when he walked past the beam that started the sprays it would set them going. Fonz walked past the beam and you guessed it, his car got flooded. The Fonz just laughed with the rest of us. We'd never do anything like that these days!

What has changed the most over your last 40 years here?

The things that have changed most over the years are machinery size, we had Euclid R24 trucks and RB38 shovels when I started. Now it's 190 tonne trucks and PC3000 excavators.

Safety has changed dramatically over the years. There is now a huge focus on safety. Four decades ago when I started it was if you could start it you could drive it, not any more.



Graeme Roberts

to find out more about alcoa's operations:

- **Come on a Tour** : (08) 9531 6752
- **Contact our Neighbour Relations staff** : Huntly Mine - Fran Luke (08) 9530 2527 : Willowdale Mine - Beth Butler (08) 9733 8942
- **Visit our website** : www.alcoa.com.au/bauxitemining

If our operations are having a negative impact on you, please contact security
Huntly Mine (08) 9530 2800
Willowdale Mine (08) 9733 8811
24 hours a day, 7 days a week