

a gold mine

The most precious rehab resource, topsoil, on the move



anglesea environment report

APRIL 2006

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Animals of the Anglesea Heath: *Striated Thornbill*

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Plus we talk to an employee about their contribution to improving the environment



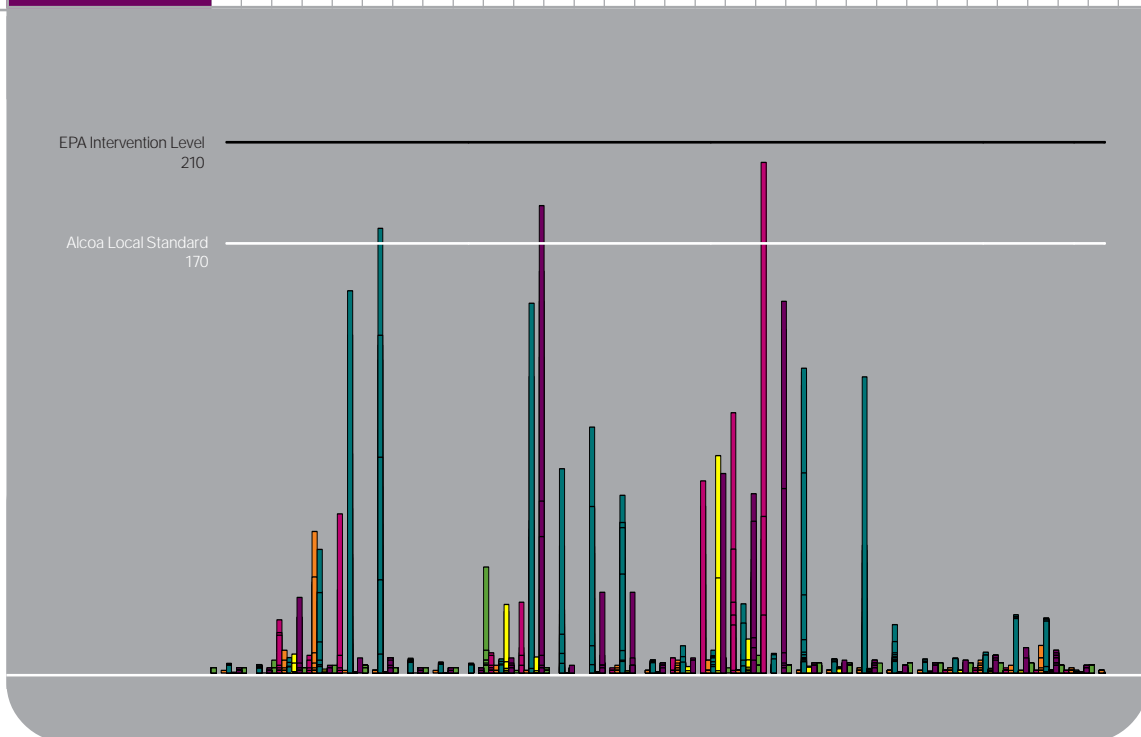
australia's aluminium

air

Air Monitoring	Average	Maximum
Stack Monitors		
Opacity g/m ³ 10-minute average	0.057	0.329
Stack SO ₂ kg/min 1-hour average Licence limit 111.34kg/min	71.41	91.22

Ambient Monitors	Average	Maximum
SO ₂ 1 hour ppb		
Community Centre	3	42
Primary School	2	202
Mt Ingoldsby	< 1	56
Scout Camp	10	176
Camp Wilkin	< 1	86
Camp Road	6	185

Ambient Monitors																														
SO ₂ Maximum 1 hour averages (ppb)																														
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Community Centre	2	2	5	2	3	3	2	2	2	42	1	2	-	-	-	-	2	7	3	4	4	4	4	4	4	4	4	4	3	3
Primary School	0	0	21	7	63	0	0	0	0	8	28	0	0	2		6	76	103	202	0	0	0	0	0	1	2	2	1	1	0
Mt Ingoldsby	1	0	9	56	1	1	0	1	0	3	1	0	0	3	0	5	5	1	0	0	1	2	1	1	2	5	3	11	2	1
Scout Camp	4	3	6	49	151	176	6	4	4	6	146	81	97	70	5	11	9	27	8	121	6	117	19	6	6	8	23	22	1	0
Camp Wilkin	0	0	7	2	0	1	0	0	0	27	6	0	1	1	0	3	86	13	0	3	2	2	1	1	1	2	1	1	1	0
Camp Road	2	2	30	3	6	6	2	2	2	6	185	2	32	32	4	6	79	71	147	4	5	5	3	4	5	7	10	9	3	2



water



Water Storage

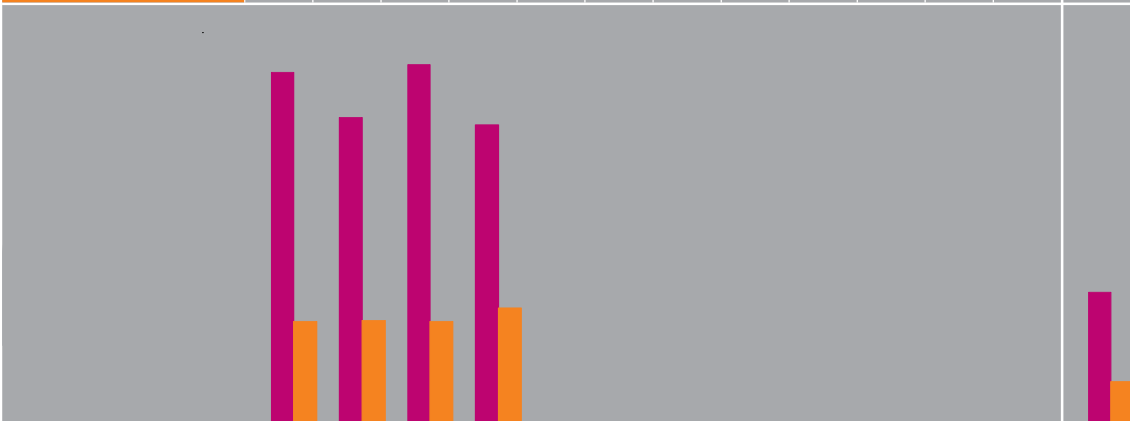
Barwon Region water storage levels continue to decrease, with the Geelong system at 27.1% capacity.

Water Discharge	April	Total
ML		
Ashponds (SP1)	148.2	563.1
Mine (SP4)	0	0.8

Water Monitoring 10/04/2006	SP1 Ashpond		SP4 Mine		SP3 Final	
	EPA limit	Lab Result	EPA limit	Lab Result	EPA limit	Lab Result
pH	4-10	7.6	3-9	-	5-9	7.4
Susp. Solids	100	3	100	-	30	3
Colour	50	8	50	-	50	14
Aluminium	10	0.3	10	-	5.5	0.1
Iron	10	0.5	0	-	4.0	< 0.1
Zinc	0.4	< 0.1	2.0	-	0.3	< 0.1

WATER WATER USAGE PER MONTH (ML)

Date	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
Town Water	1.0	1.0	1.0	1.5									4.5
Bore Water	279	243	285	237									1044
Mine Water	81	82	81	92									336



mine rehabilitation



Mine rehabilitation for 2006 was completed this month.

With the strip area cleared and the rehabilitation site prepared in March, two scrapers were brought on site for the movement of the subsoil + topsoil.

The scrapers arrived a week late, then required tyre replacements and a week of mechanical maintenance to meet items of safety from the Alcoa Mine Hire Equipment Inspection form plus the age and mechanics of these machines also meant they required a high level of maintenance during their stay. It would now be a race against time to finish the rehabilitation before the autumn break.

Eventually they were on the road moving the subsoil from the 2005 strip area to the rehab area where it was spread at approximately 100 mm to replicate the natural depth of the soil profile.

A new technique was then trialled with the topsoil. The area we rehabilitated this year was almost 7 hectares, however the area we cleared was less than 3.5 hectares. Therefore, for the topsoil to go the distance, it was picked up at 100mm but

applied over double the area, resulting in a topsoil layer half the original depth. It is anticipated that this will not affect species return, in fact it may even demonstrate a benefit. Previous research has shown that species diversity is optimum if the topsoil is respread at 50mm.

With the soil in place, an orbital muck spreader was given the task of applying the mulch over the rehab area.

The rehabilitation was then ripped on contour by Kelvin Jeffs and Joe Bromley between intermittent showers of rain. Look at those ominous clouds!!

The final step was the hand broadcasting of seed for six species. This is a new initiative to promote six of our key species that are not appearing in the rehabilitation with other techniques.

In addition to the mine crew personnel named in the March + April Environment Reports, both crews are to be thanked for their contribution either to the rehabilitation process or for ensuring that production continued with competing demands.

ANIMALS OF THE ANGLESEA HEATH

STRIATED THORNBILL (*Acanthiza lineata*)

- Size: 9-10cm
- Appearance: greenish upperparts; an orange-brown cap, streaked distinctively with white; off-white to cream underparts; heavily streaked on chin, throat and breast
male + female are similar; young birds are only slightly different to adults, with less streaking on the underside
- Distribution: south eastern mainland Australia from southern Queensland to eastern South Australia
- Habitat: open forests + woodlands dominated by eucalypts
- Food: mainly insects, will sometimes eat seed, nectar or fruit
- Living with us: adversely affected by logging + eucalypt dieback

STRIATED THORNBILL



LAND

RAINFALL (mm)

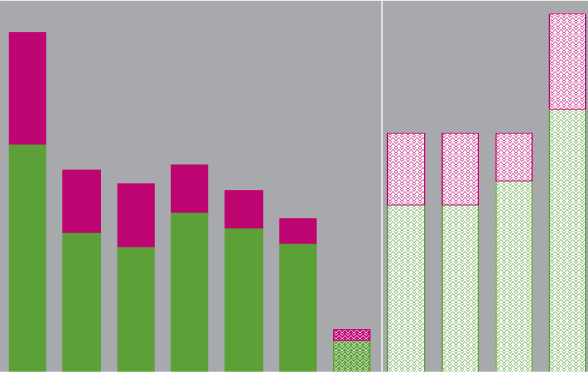
Month	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
2006 Rainfall	46.2	19.6	7.3	37.1									110.2
1968-2005 Average	44.6	43.9	42.5	53.5									184.5



WATER

TOWN WATER USE (ML)

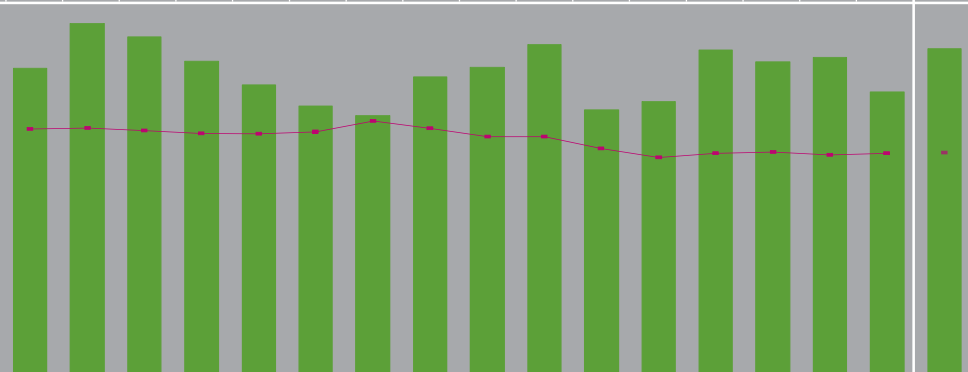
	2000	2001	2002	2003	2004	2005	2006	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Process	23.9	14.6	13.1	16.7	15.0	13.5	3.3	0.7	0.7	0.8	1.1								
Amenity	11.6	6.6	6.6	5.0	4.0	2.6	1.2	0.3	0.3	0.2	0.4								



AIR

GREENHOUSE GAS (GHG) TOTAL (Mt) & GHG EMISSION EFFICIENCY (t/MWh)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
GHG Mt	1.42	1.62	1.56	1.45	1.34	1.25	1.20	1.38	1.42	1.53	1.23	1.27	1.50	1.45	1.47	1.31	1.51
◆ GHG t/MWh	1.34	1.35	1.33	1.32	1.31	1.33	1.38	1.34	1.30	1.30	1.24	1.19	1.21	1.21	1.20	1.21	1.21



environmental improvement

Environmental Management Targets	April	2006 Total	Forecast	2006 Target
Reportable Environmental Incidents	0	0	0	0
Monthly EHS ASAT Audit Completion (%)	100	100	100	90
Air Emission Targets	April	2006 Total	Forecast	2006 Target
Ambient SO ₂ (no. readings > 210ppb)	0	0	0	0
Stack SO ₂ (no. hrs > 100kg/min)	0	0	0	0
SO ₂ Load Reductions	16	29	87	N/A
GHG Efficiency (t CO ₂ e/MWh)	1.23	1.21	1.21	1.20
Opacity (10 min av > 0.25g/m ³ normal operation)	0	0	0	0

#Visible emissions may have been observed from the stack during the month as a result of station outages.

Water Targets	April	2006 Total	Forecast	2006 Target
Town Water (ML)	1.5	4.5	13.5	17.2
Bore Water (ML)	237	1044	3132	2440

Waste Targets	April	2006 Total	Forecast	2006 Target
Waste to Landfill (t)	0.0	2.7	8.1	10.0
Solid Prescribed Waste to Landfill (t)	0.0	0.0	0.0	0

Mine Rehabilitation Targets	2006 Total	2006 Target
2006 Area Cleared (ha)	3.3	3.3
2006 Area Rehabilitated (ha)	7.5	> 3.3
2005 Mine Rehabilitation Species Richness (%)	N/A	100

OUR ENVIRONMENT AND OUR EMPLOYEES..

Kelvin, what role did you play in the completion of the 2006 rehabilitation?

I assisted with the collection of the understorey mulch from the strip area; took part in the tree clearing and pushing the timber around to bury it on the rehab site; mixed the mulch with subsoil and loaded it into the muck spreader; and completed about half of the contour ripping.

As a relatively new employee at Anglesea, what's your view on the way Alcoa manages the rehabilitation process?

After working on site for two contractors before working for Alcoa, I was aware of the old way of doing rehab. This is a totally different concept that seems to work well. It took a while to get used to the finished product without the trees.

Was it difficult to incorporate the rehabilitation tasks into your normal 'production' workload?

No it worked in quite easily.

...KELVIN JEFFS

