



waste not... want not...!

Alcoa Anglesea's hard work segregating waste during the shutdown pays off

alcoa anglesea

environment report

may

2009



australia's aluminium

air

Air Monitoring	Average	Maximum
Stack Monitors		
Opacity g/m ³ 10-minute average	0.029	0.338
Stack SO ₂ kg/min 1-hour average Licence limit 100kg/min	0.01	0.08

Ambient Monitors	Average	Maximum
SO ₂ 1 hour ppb		
Community Centre	0	42
Primary School	0	0
Mt Ingoldsby	1	47
Scout Camp	0	72
Camp Wilkin	0	1
Camp Road	0	3

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	31	
Community Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	42	1	0	0	0	0	0
Primary School	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mt Ingoldsby	2	2	8	2	2	0	0	0	0	0	0	0	0	0	1	1	2	0	0	2	2	0	16	47	9	1	0	1	2	1	2	
Scout Camp	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	2	3	3	3	72	5	2	1	1	2	
Camp Wilkin	0	1	0	0	0	0	0	0	0	0	0	0	0												1	0	0	0	0	0	1	
Camp Road	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0	3	1	1	1	2	3	0	0	0	0	0	0		

EPA Air Quality Objective
200

Alcoa Local Standard
170



water



Water Storage

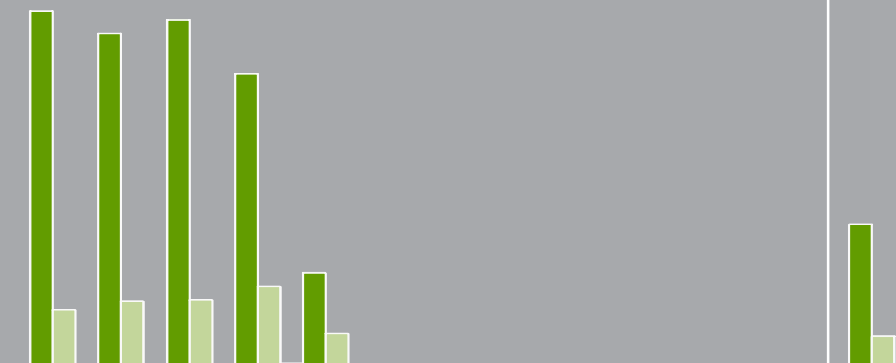
Barwon Water storage levels for the Geelong system at 18.2% capacity. Stage 4 restrictions apply with a Winter exemption to permit limited residential garden watering.

Water Discharge	May	Total
ML		
Ashponds (SP1)	64.54	601.7
Mine (SP4)	0	0

Water Monitoring 12/05/2009	SP1 Ashpond		SP4 Mine		SP3 Final	
	EPA limit	Lab Result	EPA limit	Lab Result	EPA limit	Lab Result
pH	4-10	8.6	3-9	no	5-9	7.0
Susp. Solids	100	< 4	100	discharge	30	< 4
Colour	50	4	50	at	50	6
Aluminium	10	0.26	10	time	5.5	0.83
Iron	10	0.12	20	of	4.0	<0.070
Zinc	0.4	0.056	2.0	sampling	0.30	0.12

WATER WATER USAGE PER MONTH (ML)

Date	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
Town Water	2.5	1.0	1.5	1.5	2.9								9.4
Bore Water	288	270	281	237	76								1152
Mine Water	46	53	54	65	27								245



shutdown waste management gets 10/10



Alcoa Anglesea's 2009 maintenance shutdown successfully ended on Saturday May 23 with focus on the area of waste management at an all time high. Obviously with the significant increase in people on site, the amount of waste generated during the shutdown had the potential to exceed our internal target for waste to landfill for 2009 in just one month! Not only is this a poor environmental outcome, it comes at a significant cost to the business.

The volumes of recyclable waste produced during the shutdown include:

- > 9.5 tonnes of scrap steel
- > 10 m³ of timber scrap
- > 540 kg of food scraps

In comparison to the previous 2005 shutdown we have made a huge improvement. The shutdown tally for non-recyclables in 2005 was 8.9 tonnes. However, this figure was 3.7 tonnes in 2009 - over 200% improvement!

This reduction can be attributed to the concerted efforts by our employees and contractors and the 81 waste audits that were conducted over the duration of the shutdown. Seven Environmental Near Misses relating to incorrect waste segregation were raised as a result of these audits. This allowed small issues to be corrected immediately before they became a greater issue.

The 2009 target for non-recyclable materials sent to offsite landfill is 8 tonne. Currently, YTD we have generated a total of 7.2 tonne. Although we are still underneath our target, we need to maintain our concerted waste management effort for the remainder of 2009. This will be a tough challenge for a shutdown year!

This great result was attributable to everyone "doing their bit" and taking the time to segregate their waste correctly. Lets keep it up for the remainder of the year in order to meet our 2009 target!

PLANT OF THE ANGLESEA HEATH

ANGLESEA GREVILLEA (*Grevillea Infecunda*)

Grevillea...after Charles Francis Greville, co-founder of the Royal Horticultural Society

infecunda...the opposite of *fecunda* meaning fruitful or capable of producing offspring as it appears to be incapable of reproducing by setting seed

Size: 0.3-0.6m H x 1.5-2.5 m W

Form: low spreading shrub

Habitat: tea tree heath

Foliage: oblong, holly-like leaves to 60 mm long, teeth sharply pointed, leaves paler to silky below, hairy on young growth

Flowers: red and green toothbrush-like flowers
September to January

This species is found only in the Anglesea district and is listed as vulnerable under both State and National Legislation.

GREVILLEA INFECUNDA



RAINFALL (mm)

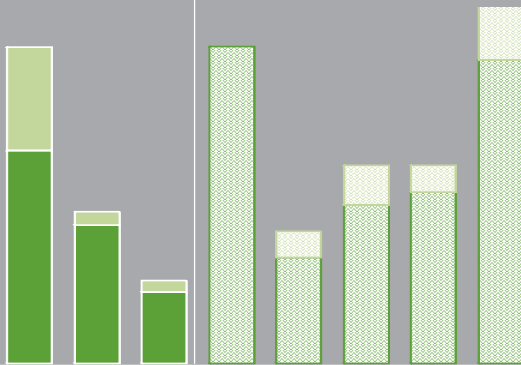
Month	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
2009 Rainfall	5.0	5.8	33.4	63.8	47.2								155.2
1968-2008 Average	43.9	42.5	40.4	51.6	60.2								238.6



WATER

TOWN WATER USE (ML)

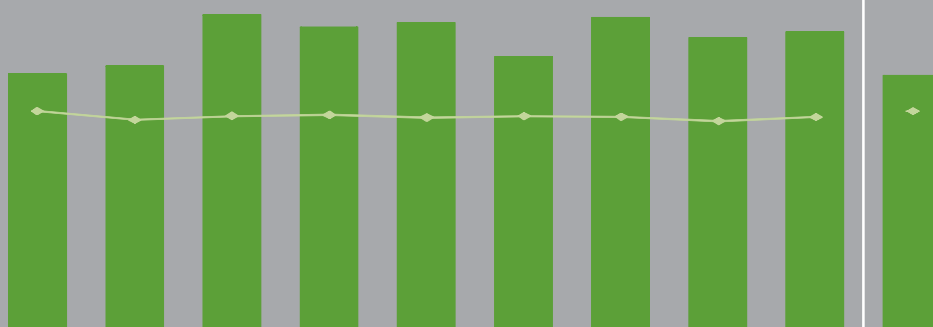
	2000	2008	2009	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Process	23.9	15.5	8.1	2.5	0.8	1.2	1.3	2.3							
Amenity	11.6	1.5	1.3	0.0	0.2	0.3	0.2	0.6							



AIR

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

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
GHG Mt	1.23	1.27	1.50	1.45	1.47	1.31	1.49	1.40	1.42	1.22
◆ GHG t/MWh	1.24	1.19	1.21	1.21	1.20	1.21	1.20	1.18	1.20	1.24



environmental improvement

Environmental Management Targets	May	2009 Total	Forecast	2009 Target
Reportable Environmental Incidents	0	1	1	0
Env Near Miss vs Env Incident Run Rate (ratio)	2.9	2.6	2.6	2.5
Monthly EHS ASAT Audit Completion (%)	100	87	87	90

Air Emission Targets	May	2009 Total	Forecast	2009 Target
Ambient SO ₂ (no. readings > 200ppb)	0	2	2	0
Stack SO ₂ (no. hrs > 100kg/min)	0	0	0	0
SO ₂ Load Reductions (lost MWh)	1034	8565	20556	N/A
GHG Efficiency (t CO ₂ e/MWh)	1.30	1.24	1.24	1.20
Opacity (10 min av > 0.25g/m ³ normal operation)	0	0	0	0

Water Targets	May	2009 Total	Forecast	2009 Target
Town Water (ML)	2.9	9.4	19.9	14.1
Bore Water (ML)	76	1152	2765	4000

Waste Targets	May	2009 Total	Forecast	2009 Target
Waste to Landfill (t)	3.7	7.2	10.5	8.0
Solid Prescribed Waste to Landfill (t)	0.0	0.0	0.0	0.0

Mine Rehabilitation Targets	2009 Total	2009 Target
2009 Area to Clear (ha)	0.245	0.0
2009 Area to Rehabilitate (ha)	0.658	0.0

OUR ENVIRONMENT AND OUR EMPLOYEE

Hi Nicci, what was your role during the 2009 Shutdown?

Apart from wearing the Community Relations Officer's hat for the duration of the shutdown, my role was to conduct waste audits around the station, to promote good waste management practices as well as the usual environmental and occupational hygiene support to the station.

How did you find your first shutdown?

The lead up and first week was particularly frantic, but it did settle down. Thanks must go to the Civil Maintenance guys who prepared well for the waste management side of the shutdown, making my job much easier. They had arranged ample bins, appropriate signage and did a great job of the actual waste collection.

Any learnings for the next shutdown?

I think there may be some more opportunities to further develop the systems that we put in place, but ultimately it was a great outcome.

Thanks Nicci

...NICCI MARRIS

