



Attachment 4.1H - Environmental Monitoring Worksheet

Period: 16/5/2017 - 31/05/2017

Location	Test	Freq	Limit	Units	Sample Date	NSW Environment Protection Licence Requirement	Date Sample Transferred to Laboratory	Date Sample Results Received by Holcim	Date of Remote Data Download	Result	Comments
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min max

NRR = No Result Recorded

Site: Albion Park Quarry

Environment Protection Licence No.	122
Site Name (As it appears on the licence)	Albion Park Quarry
Site Address (As it appears on the licence)	Albion Park Quarry Woollybutt Drive ALBION PARK RAIL NSW 2527
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31016&SYSUID=1&LICID=122

Water

Point 1	pH	After 90mm rain	6.5	8.5	pH	Y				NRR	
	Oil and Grease	After 90mm rain	0	0	Visible	Y				NRR	
	TSS	After 90mm rain		50	mg/L	Y				NRR	
Point 2	pH	After 90mm rain	6.5	8.5	pH	Y				NRR	
	Oil and Grease	After 90mm rain	0	0	Visible	Y				NRR	
	TSS	After 90mm rain		50	mg/L	Y				NRR	
Point 1	pH	After 90mm rain	6.5	8.5	pH	Y				NRR	
	Oil and Grease	After 90mm rain	0	0	Visible	Y				NRR	
	TSS	After 90mm rain		50	mg/L	Y				NRR	
Point 2	pH	After 90mm rain	6.5	8.5	pH	Y				NRR	
	Oil and Grease	After 90mm rain	0	0	Visible	Y				NRR	
	TSS	After 90mm rain		50	mg/L	Y				NRR	
Point 1	pH	After 90mm rain	6.5	8.5	pH	Y				NRR	
	Oil and Grease	After 90mm rain	0	0	Visible	Y				NRR	
	TSS	After 90mm rain		50	mg/L	Y				NRR	
Point 2	pH	After 90mm rain	6.5	8.5	pH	Y				NRR	
	Oil and Grease	After 90mm rain	0	0	Visible	Y				NRR	
	TSS	After 90mm rain		50	mg/L	Y				NRR	

Air

Point 3	Ash	Monthly		90		Y				NRR	
Point 4	Ash	Monthly		90		Y				NRR	
Point 5	Ash	Monthly		90		Y				NRR	
Point 6	Ash	Monthly		90		Y				NRR	

Blasting

		Per Blast		5	mm/s	Y				0.38	
		Per Blast		115	dB	Y				81.6	
		Per Blast		5	mm/s	Y				0.37	
		Per Blast		115	dB	Y				81.6	
		Per Blast		5	mm/s	Y				NRR	
		Per Blast		115	dB	Y				NRR	
		Per Blast		5	mm/s	Y				NRR	
		Per Blast		115	dB	Y				NRR	
		Per Blast		5	mm/s	Y				NRR	
		Per Blast		115	dB	Y				NRR	



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			min	max								

NRR = No Result Recorded

Site: "Johniefelds" Marulan Quarry

Environment Protection Licence No.	1371
Site Name (As it appears on the licence)	Marulan Quarry
Site Address (As it appears on the licence)	Marulan Quarry Brayton Road MARULAN NSW 2579
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeapp/ViewPOEOLicence.aspx?DOCID=28960&SYSUID=1&LICID=1371

Blasting

Underdowns	Overpressure	Per Blast	115	dB	Y				NRR
	Vibration	Per Blast	5	mm/s	Y				NRR
Underdowns	Overpressure	Per Blast	115	dB	Y				NRR
	Vibration	Per Blast	5	mm/s	Y				NRR
Underdowns	Overpressure	Per Blast	115	dB	Y				NRR
	Vibration	Per Blast	5	mm/s	Y				NRR
Underdowns	Overpressure	Per Blast	115	dB	Y				NRR
	Vibration	Per Blast	5	mm/s	Y				NRR
Underdowns	Overpressure	Per Blast	115	dB	Y				NRR

Site: Lynwood Quarry

Environment Protection Licence No.	12939
Site Name (As it appears on the licence)	Lynwood Quarry
Site Address (As it appears on the licence)	Lynwood Quarry 278 Stoney Creek Road, MARULAN NSW 2579
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeapp/ViewPOEOLicence.aspx?DOCID=28960&SYSUID=1&LICID=12939

Air

DD 1	Insoluble Solids	Monthly	0	4	mg/m2/month		Y			NRR
DD 2	Insoluble Solids	Monthly	0	4	mg/m2/month		Y			NRR
DD 3	Insoluble Solids	Monthly	0	4	mg/m2/month		Y			NRR
DD 4	Insoluble Solids	Monthly	0	4	mg/m2/month		Y			NRR
DD 5	Insoluble Solids	Monthly	0	4	mg/m2/month		Y			NRR
DD 6	Insoluble Solids	Monthly	0	4	mg/m2/month		Y			NRR
DD 7	Insoluble Solids	Monthly	0	4	mg/m2/month		Y			NRR
DD 8	Insoluble Solids	Monthly	0	4	mg/m2/month		Y			NRR
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	24/5/17	Y			5.4
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	30/5/17	Y			11.1
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3		Y			NRR
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	24/5/17	Y			5.3



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min max											NRR = No Result Recorded	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	30/5/17	Y				No result	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3		Y				NRR	
Blasting												
B3	Peak Particle Velocity	Per Blast	0	5	mm/sec	18/05/2017	Y	12/30/1899			0	
B3	Overpressure	Per Blast	0	115	dB	18/05/2017	Y	12/30/1899			0	
B3	Peak Particle Velocity	Per Blast	0	5	mm/sec	24/05/2017	Y	12/30/1899			0	
B3	Overpressure	Per Blast	0	115	dB	24/05/2017	Y	12/30/1899			0	
B3	Peak Particle Velocity	Per Blast	0	5	mm/sec	30/05/2017	Y	12/30/1899			0	
B3	Overpressure	Per Blast	0	115	dB	30/05/2017	Y	12/30/1899			0	
Annual Blasting Requirements (Calculated each month on a cumulative basis)												
B3	Peak Particle Velocity	5% Total Annually	0	5	%		Y				NRR	

Site: Cooma Road Quarry

Environment Protection Licence No.	1453
Site Name (As it appears on the licence)	Cooma Road Quarry
Site Address (As it appears on the licence)	Cooma Road Quarry Cooma Road Queanbeyan NSW 2620
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=28929&SYSUID=1&LICID=1453

Water												
Barracks Creek	pH	Monthly	6.5	8.5	pH		Y				NRR	
	Total O&G	Monthly	0	10	mg/L		Y				NRR	
	Susp. Solids	Monthly	0	50	mg/L		Y				NRR	
Blasting												
Heffernans House	Overpressure	Per blast	0	115	dB	16/5/2017	Y				100.3	
	Vibration	Per blast	0	5	mm/s	16/5/2017	Y				0.94	
Heffernans House	Overpressure	Per blast	0	115	dB		Y				NRR	
	Vibration	Per blast	0	5	mm/s		Y				NRR	
Heffernans House	Overpressure	Per blast	0	115	dB		Y				NRR	
	Vibration	Per blast	0	5	mm/s		Y				NRR	
Heffernans House	Overpressure	Per blast	0	115	dB		Y				NRR	
	Vibration	Per blast	0	5	mm/s		Y				NRR	

Site: Dubbo Quarry

Environment Protection Licence No.	2212
Site Name (As it appears on the licence)	Dubbo Quarry
Site Address (As it appears on the licence)	Sheraton Road, Dubbo, NSW, 2830



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			min	max							NRR = No Result Recorded
						Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prposeapp/ViewPOEOLlicence.aspx?DOCID=29036&SYSUID=1&LICID=2212				
Blasting											
WARRENS HOUSE	Overpressure	Per blast		120	dB	Y				NRR	
	Vibration	Per blast		10	mm/s	Y				NRR	
WARRENS HOUSE	Overpressure	Per blast		120	dB	Y				NRR	
	Vibration	Per blast		10	mm/s	Y				NRR	
WARRENS HOUSE	Overpressure	Per blast		120	dB	Y				NRR	
	Vibration	Per blast		10	mm/s	Y				NRR	
WARRENS HOUSE	Overpressure	Per blast		120	dB	Y				NRR	
	Vibration	Per blast		10	mm/s	Y				NRR	

Site: Humes - Blacktown

Environment Protection Licence No.	1310
Site Name (As it appears on the licence)	Humes Blacktown
Site Address (As it appears on the licence)	Humes Blacktown Lot 1 Woodstock Ave ROOTY HILL NSW 2766
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prposeapp/ViewPOEOLlicence.aspx?DOCID=28958&SYSUID=1&LICID=1310

Water											
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	



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			min	max							NRR = No Result Recorded
Sediment Basin	TSS	Daily During Discharge		50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	

Site: Teven Quarry

Environment Protection Licence No.	3293
Site Name (As it appears on the licence)	Readymix Teven Quarry
Site Address (As it appears on the licence)	Stokers Lane Teven NSW 2478
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=29168&SYSUID=1&LICID=3293

Blasting											
ID #1	pH	Weekly	6.5	8.5	pH	16/5/17	Y				7.4
ID #1	pH	Weekly	6.5	8.5	pH	22/5/17	Y				7.2
ID #1	Oil&Grease	Yearly during discharge (August)	0	10	mg/L		Y				NRR
ID #1	TSS	Yearly during discharge (August)	0	50	mg/L		Y				NRR
Noise											
144 Stokers Lane - Murphy's Residence	dB(A) L Aeq 15 min	Not specified	0	46	dB		Y				NRR

Site: Boambee Quarry

Environment Protection Licence No.	7094
Site Name (As it appears on the licence)	Boambee Quarry
Site Address (As it appears on the licence)	Boambee Quarry North Boambee Road BOAMBE NSW 2450
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31235&SYSUID=1&LICID=7094

Blasting (M4 & L2.1 - To determine compliance with L3, measurements to be taken at any point within 1 metre of residential boundary)											
	Overpressure	Per blast	0	120	dB		Y				NRR
	Vibration	Per blast	0	10	mm/s		Y				NRR
	Overpressure	Per blast	0	120	dB		Y				NRR
	Vibration	Per blast	0	10	mm/s		Y				NRR
	Overpressure	Per blast	0	120	dB		Y				NRR
	Vibration	Per blast	0	10	mm/s		Y				NRR
	Overpressure	Per blast	0	120	dB		Y				NRR
	Vibration	Per blast	0	10	mm/s		Y				NRR

Site: Tuncurry Sand



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			min	max							NRR = No Result Recorded	
						Environment Protection Licence No.	13359					
						Site Name (As it appears on the licence)	Tuncurry Sand Quarry					
						Site Address (As it appears on the licence)	Tip Road Tuncurry NSW 2428					
						Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeapp/ViewPOEOLicence.aspx?DOCID=30945&SYSUID=1&LICID=13359					
Water												
ID#2 Surface H2O "Lake 1"	Aresnic	Quarterly	0	mg/L		Y				NRR		
	Conductivity	Quarterly	0	µS/cm		Y				NRR		
	Copper	Quarterly	0	mg/L		Y				NRR		
	Iron	Quarterly	0	mg/L		Y				NRR		
	pH	Quarterly	0	pH		Y				NRR		
	Zinc	Quarterly	0	mg/L		Y				NRR		
ID#3 Surface H2O "Lake 2"	Aresnic	Quarterly	0	mg/L		Y				NRR		
	Conductivity	Quarterly	0	µS/cm		Y				NRR		
	Copper	Quarterly	0	mg/L		Y				NRR		
	Iron	Quarterly	0	mg/L		Y				NRR		
	pH	Quarterly	0	pH		Y				NRR		
	Zinc	Quarterly	0	mg/L		Y				NRR		
ID#4 Surface H2O "Lake 3"	Aresnic	Quarterly	0	mg/L		Y				NRR		
	Conductivity	Quarterly	0	µS/cm		Y				NRR		
	Copper	Quarterly	0	mg/L		Y				NRR		
	Iron	Quarterly	0	mg/L		Y				NRR		
	pH	Quarterly	0	pH		Y				NRR		
	Zinc	Quarterly	0	mg/L		Y				NRR		
ID#5 Surface H2O "Lake 4"	Aresnic	Quarterly	0	mg/L		Y				NRR		
	Conductivity	Quarterly	0	µS/cm		Y				NRR		
	Copper	Quarterly	0	mg/L		Y				NRR		
	Iron	Quarterly	0	mg/L		Y				NRR		
	pH	Quarterly	0	pH		Y				NRR		
	Zinc	Quarterly	0	mg/L		Y				NRR		
Air												
ID #1	Deposited Matter	Monthly	0	4	g/m2/month	Y				NRR		

Site: **Jandra Quarry**

Environment Protection Licence No.	2796
Site Name (As it appears on the licence)	Jandra Quarry



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			min	max								

NRR = No Result Recorded

Site Address (As it appears on the licence)	Pacific Highway Possum Brush NSW 2430
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOELicence.aspx?DOCID=30958&SYSUID=1&LICID=2796

Water

ID #1	Discharge pH	Each overflow event	6.5	8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge pH	Each overflow event	6.5	8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge pH	Each overflow event	6.5	8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge pH	Each overflow event	6.5	8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge pH	Each overflow event	6.5	8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge pH	Each overflow event	6.5	8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge pH	Each overflow event	6.5	8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu		Y				NRR	



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			min max							NRR = No Result Recorded	
ID #1	Discharge pH	Each overflow event	6.5 8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0 50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0 50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0	ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0	ntu		Y				NRR	
ID #1	Discharge pH	Each overflow event	6.5 8.5	pH		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0 50	mg/L		Y				NRR	
ID #1	Discharge TSS	2 X Daily during discharge	0 50	mg/L		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0	ntu		Y				NRR	
ID #1	Discharge Turbidity	2 X Daily during discharge	0	ntu		Y				NRR	
Blasting (To determine compliance with L3, measurements to be taken at any point within 1 metre of residential boundary)											
	Overpressure	Per blast	0 120	dB		Y				NRR	
	Vibration	Per blast	0 10	mm/s		Y				NRR	
	Overpressure	Per blast	0 120	dB		Y				NRR	
	Vibration	Per blast	0 10	mm/s		Y				NRR	
	Overpressure	Per blast	0 120	dB		Y				NRR	
	Vibration	Per blast	0 10	mm/s		Y				NRR	
	Overpressure	Per blast	0 120	dB		Y				NRR	
	Vibration	Per blast	0 10	mm/s		Y				NRR	
Annual Blasting Requirements (Calculated each month on a cumulative basis)											
	Overpressure	Monthly (Cumulative)	115 120	dB		Y				NRR	
	Vibration	Monthly (Cumulative)	5 10	mm/s		Y				NRR	