



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 16/08/2018 - 31/08/2018

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	<a href="http://app.epa.nsw.gov.au/pppocapp/ViewPDFOLLicence.aspx?DOCID=54923&amp;SYSUID=1&amp;LICID=122">http://app.epa.nsw.gov.au/pppocapp/ViewPDFOLLicence.aspx?DOCID=54923&amp;SYSUID=1&amp;LICID=122</a>

Water	Point	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		
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	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	50	mg/L		Y				NRR	

Air	Point	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
Point 3	Ash	Monthly	90	90	mg/L		Y				NRR	
		Monthly	90	90	mg/L		Y				NRR	
		Monthly	90	90	mg/L		Y				NRR	

Blasting	Time of Blast	Per Blast	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	
Time of Blast	Per Blast	5	5	mm/s		Y					0.68	
		115	115	dB		Y					107.7	
		5	5	mm/s		Y					0.35	
	Per Blast	115	115	dB		Y					102.5	
		5	5	mm/s		Y					NRR	
		115	115	dB		Y					NRR	

**Site: "Johnniefelds" 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	<a href="http://app.epa.nsw.gov.au/pppocapp/ViewPDFOLLicence.aspx?DOCID=52923&amp;SYSUID=1&amp;LICID=1371">http://app.epa.nsw.gov.au/pppocapp/ViewPDFOLLicence.aspx?DOCID=52923&amp;SYSUID=1&amp;LICID=1371</a>

Blasting	Time of Blast	Per Blast	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	
Time of Blast	Undershoots	Overpressure	Per Blast	115	dB		Y				NRR	
		Vibration	Per Blast	5	mm/s		Y				NRR	
		Overpressure	Per Blast	115	dB		Y				NRR	
	Undershoots	Overpressure	Per Blast	5	mm/s		Y				NRR	
		Vibration	Per Blast	115	dB		Y				NRR	
		Overpressure	Per Blast	5	mm/s		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 Stony Creek Road, MARULAN NSW 2579
Link to Licence on EPA Website	<a href="http://app.epa.nsw.gov.au/pppocapp/ViewPDFOLLicence.aspx?DOCID=105521&amp;SYSUID=1&amp;LICID=12939">http://app.epa.nsw.gov.au/pppocapp/ViewPDFOLLicence.aspx?DOCID=105521&amp;SYSUID=1&amp;LICID=12939</a>

Air	DD	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	
HVAS	DD 5	Insoluble Solids	Monthly	0	4	mg/m <sup>3</sup> /month	01/00	Y	12:00:00 AM	12:00:00 AM	NRR		
		Insoluble Solids	Monthly	0	4	mg/m <sup>3</sup> /month	01/00	Y	12:00:00 AM	12:00:00 AM	NRR		
	DD 11	Insoluble Solids	Monthly	0	4	mg/m <sup>3</sup> /month	01/00	Y	12:00:00 AM	12:00:00 AM	NRR		
		Insoluble Solids	Monthly	0	4	mg/m <sup>3</sup> /month	01/00	Y	12:00:00 AM	12:00:00 AM	NRR		
	DD 13	Insoluble Solids	Monthly	0	4	mg/m <sup>3</sup> /month	01/00	Y	12:00:00 AM	12:00:00 AM	NRR		
		Insoluble Solids	Monthly	0	4	mg/m <sup>3</sup> /month	01/00	Y	12:00:00 AM	12:00:00 AM	NRR		
	HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>	23/8/18	Y	24/8/18	30/8/18		9.60	
			24hr (every 6 days)	0	50	µg/m <sup>3</sup>	29/8/18	Y	30/8/18	6/9/18		2.20	
	HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>	01/00	Y	12:00:00 AM	12:00:00 AM		NRR	
			24hr (every 6 days)	0	50	µg/m <sup>3</sup>	23/8/18	Y	24/8/18	30/8/18		12.70	
	HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>	29/8/18	Y	30/8/18	6/9/18		8.10	
			24hr (every 6 days)	0	50	µg/m <sup>3</sup>	01/00	Y	12:00:00 AM	12:00:00 AM		NRR	

Blasting	Time of Blast	Per Blast	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		
Time of Blast	B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	17/08/2018	Y	11:06:58 AM		0.00		
		Overpressure	Per Blast	0	115	dB	17/08/2018	Y	11:06:58 AM		0.00		
		B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	17/08/2018	Y	11:06:58 AM		0.00	
			Overpressure	Per Blast	0	115	dB	17/08/2018	Y	11:06:58 AM		0.00	
		B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	17/08/2018	Y	11:06:58 AM		1.02	
			Overpressure	Per Blast	0	100	mm/sec	17/08/2018	Y	11:06:58 AM		0.00	
		B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	23/08/2018	Y	1:10:00 PM		0.00	
			Overpressure	Per Blast	0	115	dB	23/08/2018	Y	1:10:00 PM		0.00	
		B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	23/08/2018	Y	1:10:00 PM		0.00	
			Overpressure	Per Blast	0	115	dB	23/08/2018	Y	1:10:00 PM		0.00	
		B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	23/08/2018	Y	1:10:00 PM		0.76	
			Overpressure	Per Blast	0	100	mm/sec	23/08/2018	Y	1:10:00 PM		0.76	
		B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	27/08/2018	Y	11:04:00 AM		0.00	
			Overpressure	Per Blast	0	115	dB	27/08/2018	Y	11:04:00 AM		0.00	
		B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	27/08/2018	Y	11:04:00 AM		0.00	
			Overpressure	Per Blast	0	115	dB	27/08/2018	Y	11:04:00 AM		0.00	
		B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	27/08/2018	Y	11:04:00 AM		1/100	
			Overpressure	Per Blast	0	100	mm/sec	27/08/2018	Y	11:04:00 AM		1/100	
		B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	01/00	Y	12:00:00 AM		NRR	
			Overpressure	Per Blast	0	115	dB	01/00	Y	12:00:00 AM		NRR	
		B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	01/00	Y	12:00:00 AM		NRR	
			Overpressure	Per Blast	0	115	dB	01/00	Y	12:00:00 AM		NRR	
		B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	01/00	Y	12:00:00 AM		NRR	
			Overpressure	Per Blast	0	100	mm/sec	01/00	Y	12:00:00 AM		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	<a href="http://app.epa.nsw.gov.au/pppocapp/ViewPDFOLLicence.aspx?DOCID=32932&amp;SYSUID=1&amp;LICID=1453">http://app.epa.nsw.gov.au/pppocapp/ViewPDFOLLicence.aspx?DOCID=32932&amp;SYSUID=1&amp;LICID=1453</a>

Water	Point	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	
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	Time of Blast	Per Blast	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	
Time of Blast	Hefermans House	Overpressure	Per Blast	0	115	dB		Y			NRR	
		Vibration	Per Blast	0	5	mm/s		Y				NRR





Site: **Jandra Quarry**

Environment Protection Licence No.	2796
Site Name (As it appears on the licence)	Jandra Quarry
Site Address (As it appears on the licence)	Pacific Highway Possum Brush NSW 2430
Link to Licence on EPA Website	<a href="http://epa.nsw.gov.au/ppocapp/ViewPEOLlicence.aspx?DOCID=87197&amp;SYSUID=1&amp;LICID=2796">http://epa.nsw.gov.au/ppocapp/ViewPEOLlicence.aspx?DOCID=87197&amp;SYSUID=1&amp;LICID=2796</a>

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
DD 1	Insoluble Solids	Monthly	0	4	mg/m <sup>2</sup> /month	28/08/2018	Y	28/08/2018	9/5/18			0.5
DD 2	Insoluble Solids	Monthly	0	4	mg/m <sup>2</sup> /month	28/08/2018	Y	28/08/2018	9/5/18			0.5
DD 3	Insoluble Solids	Monthly	0	4	mg/m <sup>2</sup> /month	28/08/2018	Y	28/08/2018	9/5/18			0.5
DD 4	Insoluble Solids	Monthly	0	4	mg/m <sup>2</sup> /month	28/08/2018	Y	28/08/2018	9/5/18			0.5
HVAS 1	Insoluble Solids	Monthly	0	4	mg/m <sup>2</sup> /month	28/08/2018	Y	28/08/2018	9/5/18			0.4
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>	8/11/18	Y					10
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>	17/09/2018	Y					10
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>	23/09/2018	Y					9
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>		Y					NRR
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>		Y					NRR
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m <sup>3</sup>		Y					NRR
Blasting (To determine compliance with L3, measurements to be taken at any point within 1 metre of residential boundary)												
Time of Blast												
	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