



Attachment 4.1H - Environmental Monitoring Worksheet

Period: 9/1/17 - 15/09/17

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
			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/epoapp/ViewPOELLicence.aspx?DOCID=31016&SYSUID=1&LICID=122

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

Point	Test	Frequency	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	Ash	Monthly	90	%	9/4/17	Y				1	
Point 2	Ash	Monthly	90	%	9/4/17	Y				0.3	
Point 3	Ash	Monthly	90	%	9/4/17	Y				1.6	
Point 4	Ash	Monthly	90	%	9/4/17	Y				0.3	

Point	Test	Frequency	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
Per Blast	Per Blast	5	5	mm/s		Y				0.54	
	Per Blast	115	115	dB		Y				83	
	Per Blast	5	5	mm/s		Y				#REF!	
Per Blast	Per Blast	115	115	dB		Y				1.81	
	Per Blast	5	5	mm/s		Y				0.66	
	Per Blast	115	115	dB		Y				107	
Per Blast	Per Blast	5	5	mm/s		Y				NRR	
	Per Blast	115	115	dB		Y				NRR	
	Per Blast	5	5	mm/s		Y				NRR	

Site: "Johnniefields" 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/epoapp/ViewPOELLicence.aspx?DOCID=29960&SYSUID=1&LICID=1371

Point	Test	Frequency	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
Underdowns	Overpressure	Per Blast	115	dB		Y				NRR	
	Vibration	Per Blast	5	mm/s		Y				NRR	
	Overpressure	Per Blast	115	dB		Y				NRR	
Underdowns	Overpressure	Per Blast	115	dB		Y				NRR	
	Vibration	Per Blast	5	mm/s		Y				NRR	
	Overpressure	Per Blast	115	dB		Y				NRR	
Underdowns	Overpressure	Per Blast	115	dB		Y				NRR	
	Vibration	Per Blast	5	mm/s		Y				NRR	
	Overpressure	Per Blast	115	dB		Y				NRR	
Underdowns	Overpressure	Per Blast	115	dB		Y				NRR	
	Vibration	Per Blast	5	mm/s		Y				NRR	
	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 Sney Creek Road, MARULAN NSW 2579
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/epoapp/ViewPOELLicence.aspx?DOCID=29960&SYSUID=1&LICID=12939

DD	Test	Frequency	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
DD 5	Insoluble Solids	Monthly	0	4	mg/m ² /month	0/1/00	Y		0/1/00	0/1/00	NRR
DD 8	Insoluble Solids	Monthly	0	4	mg/m ² /month	0/1/00	Y		0/1/00	0/1/00	NRR
DD 11	Insoluble Solids	Monthly	0	4	mg/m ² /month	0/1/00	Y		0/1/00	0/1/00	NRR
DD 12	Insoluble Solids	Monthly	0	4	mg/m ² /month	0/1/00	Y		0/1/00	0/1/00	NRR
DD 13	Insoluble Solids	Monthly	0	4	mg/m ² /month	0/1/00	Y		0/1/00	0/1/00	NRR
HWAS 1	PM10	24hr (every 6 days)	0	50	µg/m ³	8/3/17	Y		0/1/00	0/1/00	15.50
	PM10	24hr (every 6 days)	0	50	µg/m ³	8/9/17	Y		14/8/17	21/8/17	3.20
HWAS 2	PM10	24hr (every 6 days)	0	50	µg/m ³	15/8/17	Y		18/8/17	22/8/17	5.20
	PM10	24hr (every 6 days)	0	50	µg/m ³	8/3/17	Y		18/8/17	0/1/00	36.70
HWAS 2	PM10	24hr (every 6 days)	0	50	µg/m ³	8/9/17	Y		14/8/17	21/8/17	6.60
	PM10	24hr (every 6 days)	0	50	µg/m ³	15/8/17	Y		18/8/17	22/8/17	9.70

Point	Test	Frequency	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
B1 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	9/4/17	Y		11:57:00 AM	6.62	
	Overpressure	Per Blast	0	100	mm/sec	9/4/17	Y		11:57:00 AM	1.86	
B3 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	9/4/17	Y		11:57:00 AM	0.00	
	Overpressure	Per Blast	0	115	dB	9/4/17	Y		11:57:00 AM	0.00	
B1 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	15/09/2017	Y		12:44:00 PM	0.00	
	Overpressure	Per Blast	0	100	mm/sec	15/09/2017	Y		12:44:00 PM	1.79	
B3 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	15/09/2017	Y		12:44:00 PM	0.00	
	Overpressure	Per Blast	0	115	dB	15/09/2017	Y		12:44:00 PM	0.00	
B1 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	0/1/00	Y		12:00:00 AM	NRR	
	Overpressure	Per Blast	0	100	mm/sec	0/1/00	Y		12:00:00 AM	NRR	
B3 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	0/1/00	Y		12:00:00 AM	NRR	
	Overpressure	Per Blast	0	115	dB	0/1/00	Y		12:00:00 AM	NRR	
B1 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	0/1/00	Y		12:00:00 AM	NRR	
	Overpressure	Per Blast	0	100	mm/sec	0/1/00	Y		12:00:00 AM	NRR	
B3 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	0/1/00	Y		12:00:00 AM	NRR	
	Overpressure	Per Blast	0	115	dB	0/1/00	Y		12:00:00 AM	NRR	
B1 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	9/1/17	Y		10:48:00 AM	0/1/00	
	Overpressure	Per Blast	0	100	mm/sec	9/1/17	Y		10:48:00 AM	0/1/00	
B3 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	9/1/17	Y		10:48:00 AM	0/1/00	
	Overpressure	Per Blast	0	115	dB	9/1/17	Y		10:48:00 AM	0/1/00	
B1 - Rail	Peak Particle Velocity	Per Blast	0	5	mm/sec	0/1/00	Y		12:00:00 AM	NRR	
	Overpressure	Per Blast	0	115	dB	0/1/00	Y		12:00:00 AM	NRR	
B3 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	0/1/00	Y		12:00:00 AM	NRR	
	Overpressure	Per Blast	0	115	dB	0/1/00	Y		12:00:00 AM	NRR	
B1 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	14/09/2017	Y		4:09:00 PM	0/1/00	
	Overpressure	Per Blast	0	115	dB	14/09/2017	Y		4:09:00 PM	0/1/00	
B3 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	14/09/2017	Y		4:09:00 PM	0/1/00	
	Overpressure	Per Blast	0	115	dB	14/09/2017	Y		4:09:00 PM	0/1/00	

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/epoapp/ViewPOELLicence.aspx?DOCID=28928&SYSUID=1&LICID=1453

Point	Test	Frequency	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	9/1/17	Y			7.6	
	Total O&G	Monthly	0	10	mg/L	9/1/17	Y			<1	

		Susp. Solids	Monthly	0	50	mg/L	9/1/17	Y		2
Blasting										
Heffernans House	Overpressure	Per blast	0	115	dB	9/1/17	Y			110
	Vibration	Per blast	0	5	mm/s	9/1/17	Y			6.27
Heffernans House	Overpressure	Per blast	0	115	dB	9/12/17	Y			NRR
	Vibration	Per blast	0	5	mm/s	9/12/17	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
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/eprocapp/ViewPOEOLLicence.aspx?DOCID=29038&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 2786
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/eprocapp/ViewPOEOLLicence.aspx?DOCID=28988&SYSUID=1&LICID=1310

Water										
Sediment Basin	TSS	Daily During Discharge	6.5	50	mg/L	14/09/17	Y			42
	pH	Daily During Discharge	6.5	8.5	pH	14/09/17	Y			8.3
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
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

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/eprocapp/ViewPOEOLLicence.aspx?DOCID=29168&SYSUID=1&LICID=3293

Blasting										
ID #1	pH	Weekly	6.5	8.5	pH	9/4/17	Y			7.6
ID #1	pH	Weekly	6.5	8.5	pH	9/11/17	Y			7.7
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	45	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/eprocapp/ViewPOEOLLicence.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

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/eprocapp/ViewPOEOLLicence.aspx?DOCID=30618&SYSUID=1&LICID=13359

Water										
ID#2 Surface H20 "Lake 1"	Arsenic	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 H20 "Lake 2"	Arsenic	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 H20 "Lake 3"	Arsenic	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 H20 "Lake 4"	Arsenic	Quarterly	0		mg/L		Y			NRR
	Conductivity	Quarterly	0		µS/cm		Y			NRR
	Copper	Quarterly	0		mg/L		Y			NRR

