



Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/12/2018 - 15/12/2018

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	http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=54925&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											
Time of Blast											
83RL	Per Blast			5	mm/s	Y					NRR
	Per Blast			115	dB	Y					NRR
	Per Blast			5	mm/s	Y					0.33
	Per Blast			115	dB	Y					96.8
	Per Blast			5	mm/s	Y					0.43
	Per Blast			115	dB	Y					97.4
	Per Blast			5	mm/s	Y					NRR
	Per Blast			115	dB	Y					NRR
	Per Blast			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



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			min max								NRR = No Result Recorded
						Link to Licence on EPA Website	http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32923&SYSUID=1&LICID=1371				

Blasting											
Time of Blast											
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

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://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=105521&SYSUID=1&LICID=12939					

Air											
DD 5	Insoluble Solids	Monthly	0	4	mg/m2/month	Y					#REF!
DD 8	Insoluble Solids	Monthly	0	4	mg/m2/month	Y					NRR
DD 11	Insoluble Solids	Monthly	0	4	mg/m2/month	Y					NRR
DD 12	Insoluble Solids	Monthly	0	4	mg/m2/month	Y					NRR
DD 13	Insoluble Solids	Monthly	0	4	mg/m2/month	Y					NRR
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	Y					34.80
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	Y					NRR
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	Y	31/1/2018	31/12/2018	24/1/2019		19.50
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	Y	9/12/2018				-
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	Y	3/12/2018				-
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	Y	31/12/2018	31/12/2018	24/1/2019		-

Blasting											
Time of Blast											
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	4/12/2018	Y	11:29:39 AM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	4/12/2018	Y	11:29:39 AM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	4/12/2018	Y	11:29:39 AM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	4/12/2018	Y	11:29:39 AM			0.00
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	4/12/2018	Y	11:29:39 AM			1.10
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	4/12/2018	Y	11:29:39 AM			1.10
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	5/12/2018	Y	10:05:00 AM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	5/12/2018	Y	10:05:00 AM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	5/12/2018	Y	10:05:00 AM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	5/12/2018	Y	10:05:00 AM			0.00
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	5/12/2018	Y	10:05:00 AM			0.00
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	5/12/2018	Y	10:05:00 AM			0.00
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	6/12/2018	Y	2:07:09 PM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	6/12/2018	Y	2:07:09 PM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	6/12/2018	Y	2:07:09 PM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	6/12/2018	Y	2:07:09 PM			12/30/1899
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	6/12/2018	Y	2:07:09 PM			12/30/1899



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			min	max								
NRR = No Result Recorded												
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	6/12/2018	Y	2:07:09 PM			12/30/1899	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	7/12/2018	Y	12:40:15 PM			12/30/1899	
B4 - Resident	Overpressure	Per Blast	0	115	dB	7/12/2018	Y	12:40:15 PM			12/30/1899	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	7/12/2018	Y	12:40:15 PM			12/30/1899	
B5 - Resident	Overpressure	Per Blast	0	115	dB	7/12/2018	Y	12:40:15 PM			12/30/1899	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	7/12/2018	Y	12:40:15 PM			12/30/1899	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	7/12/2018	Y	12:40:15 PM			12/30/1899	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	11/12/2018	Y	12:58:14 PM			12/30/1899	
B4 - Resident	Overpressure	Per Blast	0	115	dB	11/12/2018	Y	12:58:14 PM			12/30/1899	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	11/12/2018	Y	12:58:14 PM			12/30/1899	
B5 - Resident	Overpressure	Per Blast	0	115	dB	11/12/2018	Y	12:58:14 PM			12/30/1899	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	11/12/2018	Y	12:58:14 PM			12/30/1899	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	11/12/2018	Y	12:58:14 PM			12/30/1899	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	11/12/2018	Y	1:03:00 PM			12/30/1899	
B4 - Resident	Overpressure	Per Blast	0	115	dB	11/12/2018	Y	1:03:00 PM			12/30/1899	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	11/12/2018	Y	1:03:00 PM			12/30/1899	
B5 - Resident	Overpressure	Per Blast	0	115	dB	11/12/2018	Y	1:03:00 PM			12/30/1899	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	11/12/2018	Y	1:03:00 PM			12/30/1899	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	11/12/2018	Y	1:03:00 PM			12/30/1899	
		Per Blast	0				Y				NRR	
		Per Blast	0				Y				NRR	
		Per Blast	0				Y				NRR	
		Per Blast	0				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://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32932&SYSUID=1&LICID=1453

Water												
Barracks Creek	pH	Monthly	6.5	8.5	pH		Y				7.6	
	Total O&G	Monthly	0	10	mg/L		Y				<1	
	Susp. Solids	Monthly	0	50	mg/L		Y				<2	
Blasting												
								Time of Blast				
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	
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
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min max

NRR = No Result Recorded

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://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=42179&SYSUID=1&LICID=2212>

Blasting

Time of Blast

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:

Dunloe Sands Quarry

Environment Protection Licence No.

13077

Site Name
(As it appears on the licence)

Dunloe Sands Quarry

Site Address
(As it appears on the licence)

Pottsville-Mooball Road, Mooball NSW 2483

Link to Licence on EPA Website

<http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=134905&SYSUID=1&LICID=13077>

Water - *Frequency is as per 'Special Frequency 1' referred to in Condition M2.3 of EPL

Silt Pond discharge monitoring point	Discharge pH	<24 hours prior to overflow event*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 1)*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 2)*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 3)*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 4)*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 5)*	6.5	8.5	pH	Y				NRR	
	Discharge TSS	<24 hours prior to overflow event*	0	50	mg/L	Y				NRR	
	Discharge TSS	Overflow (Day 1)*	0	50	mg/L	Y				NRR	
	Discharge TSS	Overflow (Day 2)*	0	50	mg/L	Y				NRR	
	Discharge TSS	Overflow (Day 3)*	0	50	mg/L	Y				NRR	
Dredge Pond discharge monitoring point	Discharge pH	<24 hours prior to overflow event*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 1)*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 2)*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 3)*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 4)*	6.5	8.5	pH	Y				NRR	
	Discharge pH	Overflow (Day 5)*	6.5	8.5	pH	Y				NRR	
	Oil and Grease	<24 hours prior to overflow event*	0	0	0=Not Visible; 1=Visible	Y				NRR	
	Oil and Grease	Overflow (Day 1)*	0	0	0=Not Visible; 1=Visible	Y				NRR	
	Oil and Grease	Overflow (Day 2)*	0	0	0=Not Visible; 1=Visible	Y				NRR	
	Oil and Grease	Overflow (Day 3)*	0	0	0=Not Visible; 1=Visible	Y				NRR	



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			min	max							NRR = No Result Recorded	
	Discharge TSS	<24 hours prior to overflow event*	0	50	mg/L		Y				NRR	
	Discharge TSS	Overflow (Day 1)*	0	50	mg/L		Y				NRR	
	Discharge TSS	Overflow (Day 2)*	0	50	mg/L		Y				NRR	
	Discharge TSS	Overflow (Day 3)*	0	50	mg/L		Y				NRR	
	Discharge TSS	Overflow (Day 4)*	0	50	mg/L		Y				NRR	
	Discharge TSS	Overflow (Day 5)*	0	50	mg/L		Y				NRR	
	Oil and Grease	<24 hours prior to overflow event*	0	0	0=Not Visible; 1=Visible		Y				NRR	
	Oil and Grease	Overflow (Day 1)*	0	0	0=Not Visible; 1=Visible		Y				NRR	
	Oil and Grease	Overflow (Day 2)*	0	0	0=Not Visible; 1=Visible		Y				NRR	
	Oil and Grease	Overflow (Day 3)*	0	0	0=Not Visible; 1=Visible		Y				NRR	
	Oil and Grease	Overflow (Day 4)*	0	0	0=Not Visible; 1=Visible		Y				NRR	
	Oil and Grease	Overflow (Day 5)*	0	0	0=Not Visible; 1=Visible		Y				NRR	
Groundwater												
DLP1	Ammonia	Yearly	-	-	mg/L		Y				NRR	
	Chloride	Yearly	-	-	mg/L		Y				NRR	
	Electrical conductivity	Yearly	-	-	µm/cm		Y				NRR	
	Oil and Grease	Yearly	-	-	mg/L		Y				NRR	
	pH	Yearly	-	-	pH		Y				NRR	
	Standing Water Level	Yearly	-	-	m		Y				NRR	
	Sulfate	Yearly	-	-	mg/L		Y				NRR	
DLP2	Ammonia	Yearly	-	-	mg/L		Y				NRR	
	Chloride	Yearly	-	-	mg/L		Y				NRR	
	Electrical conductivity	Yearly	-	-	µm/cm		Y				NRR	
	Oil and Grease	Yearly	-	-	mg/L		Y				NRR	
	pH	Yearly	-	-	pH		Y				NRR	
	Standing Water Level	Yearly	-	-	m		Y				NRR	
	Sulfate	Yearly	-	-	mg/L		Y				NRR	
DLP3	Ammonia	Yearly	-	-	mg/L		Y				NRR	
	Chloride	Yearly	-	-	mg/L		Y				NRR	
	Electrical conductivity	Yearly	-	-	µm/cm		Y				NRR	
	Oil and Grease	Yearly	-	-	mg/L		Y				NRR	
	pH	Yearly	-	-	pH		Y				NRR	
	Standing Water Level	Yearly	-	-	m		Y				NRR	
	Sulfate	Yearly	-	-	mg/L		Y				NRR	
DLP5	Ammonia	Yearly	-	-	mg/L		Y				NRR	
	Chloride	Yearly	-	-	mg/L		Y				NRR	
	Electrical conductivity	Yearly	-	-	µm/cm		Y				NRR	
	Oil and Grease	Yearly	-	-	mg/L		Y				NRR	
	pH	Yearly	-	-	pH		Y				NRR	
	Standing Water Level	Yearly	-	-	m		Y				NRR	
	Sulfate	Yearly	-	-	mg/L		Y				NRR	
DLP6	Ammonia	Yearly	-	-	mg/L		Y				NRR	
	Chloride	Yearly	-	-	mg/L		Y				NRR	
	Electrical conductivity	Yearly	-	-	µm/cm		Y				NRR	
	Oil and Grease	Yearly	-	-	mg/L		Y				NRR	
	pH	Yearly	-	-	pH		Y				NRR	
	Standing Water Level	Yearly	-	-	m		Y				NRR	
	Sulfate	Yearly	-	-	mg/L		Y				NRR	
DLP7	Ammonia	Yearly	-	-	mg/L		Y				NRR	



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			min max							NRR = No Result Recorded	
	Chloride	Yearly	- -	mg/L		Y				NRR	
	Electrical conductivity	Yearly	- -	µm/cm		Y				NRR	
	Oil and Grease	Yearly	- -	mg/L		Y				NRR	
	pH	Yearly	- -	pH		Y				NRR	
	Standing Water Level	Yearly	- -	m		Y				NRR	
	Sulfate	Yearly	- -	mg/L		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://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=35038&SYSUID=1&LICID=1310

Water											
Sediment Basin	TSS	Daily During Discharge		50	mg/L	3/12/2018	Y			38	
	pH	Daily During Discharge	6.5	8.5	pH	3/12/2018	Y			6.85	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	4/12/2018	Y			49	
	pH	Daily During Discharge	6.5	8.5	pH	4/12/2018	Y			6.7	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	5/12/2018	Y			49	
	pH	Daily During Discharge	6.5	8.5	pH	5/12/2018	Y			7.7	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	6/12/2018	Y			45	
	pH	Daily During Discharge	6.5	8.5	pH	6/12/2018	Y			7.7	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	10/12/2018	Y			38	
	pH	Daily During Discharge	6.5	8.5	pH	10/12/2018	Y			7.75	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	11/12/2018	Y			33	
	pH	Daily During Discharge	6.5	8.5	pH	11/12/2018	Y			7.54	
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://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=85921&SYSUID=1&LICID=3293



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			min	max								
NRR = No Result Recorded												
Water												
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH	3/12/2018	Y				1/6/1900	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH	12/12/2018	Y				1/6/1900	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	



Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/12/2018 - 15/12/2018

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
			min	max								
NRR = No Result Recorded												
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licensed Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Noise												
168 Weller's Road, Teven (or Receiver No. 2 in Consent)	Daytime - LAeq (15 min)	Yearly	0	37	dB (A)		Y				NRR	
168 Weller's Road, Teven (or Receiver No. 2 in Consent)	Evening (6am-10pm Mon - Sun) - LAeq (15 min)	Yearly	0	35	dB (A)		Y				NRR	
Blasting												
Time of Blast												
Any point <1 metre of any affected residential property boundary or other sensitive noise location.	Overpressure	Per Blast	0	115	dB		Y				NRR	
Any point <1 metre of any affected residential property boundary or other sensitive noise location.	Peak Particle Velocity	Per Blast	0	5	mm/sec		Y				NRR	
Any point <1 metre of any affected residential property boundary or other sensitive noise location.	Overpressure	Per Blast	0	115	dB		Y				NRR	
Any point <1 metre of any affected residential property boundary or other sensitive noise location.	Peak Particle Velocity	Per Blast	0	5	mm/sec		Y				NRR	
Site: Boambee Quarry												
							Environment Protection Licence No.	7094				
							Site Name (As it appears on the licence)	Boambee Quarry				



Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/12/2018 - 15/12/2018

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
			min	max							
						Site Address (As it appears on the licence)	Boambee Quarry North Boambee Road BOAMBE NSW 2450				
						Link to Licence on EPA Website	http://app.epa.nsw.gov.au/prpoeoapp/iew/POEOLicence.aspx?DOCID=108484&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)						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

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://app.epa.nsw.gov.au/prpoeoapp/iew/POEOLicence.aspx?DOCID=47350&SYSUID=1&LICID=13359					

Water											
ID#2 Surface H20 "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 H20 "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 H20 "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 H20 "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



Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/12/2018 - 15/12/2018

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
			min max							NRR = No Result Recorded	
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
Site Address (As it appears on the licence)	Pacific Highway Possum Brush NSW 2430
Link to Licence on EPA Website	http://app.epa.nsw.gov.au/prpoeapp/ViewPOEOLicence.aspx?DOCID=87197&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	
DD 1	Insoluble Solids	Monthly	0	4		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	
HVAS 1	Insoluble Solids	Monthly	0	4	mg/m2/month	Y				NRR	
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	Y				NRR	
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	Y				NRR	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	Y				NRR	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	Y				NRR	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	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	