



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/10/2018 - 15/10/2018

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/prpoeoapp/ViewPOEOLicence.aspx?DOCID=54925&amp;SYSUID=1&amp;LICID=122">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=54925&amp;SYSUID=1&amp;LICID=122</a>

### 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 1	Ash	Monthly		90		5/10/2018	Y				37
Point 2	Ash	Monthly		90		5/10/2018	Y				0.8
Point 4	Ash	Monthly		90		5/10/2018	Y				2
Point 5	Ash	Monthly		90		5/10/2018	Y				0.7

### Blasting

				Time of Blast							
83RL	Per Blast		5	mm/s	Y						0.4
	Per Blast		115	dB	Y						96.1
	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
	Per Blast		5	mm/s	Y						NRR
	Per Blast		115	dB	Y						NRR
	Per Blast		5	mm/s	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	<a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32923&amp;SYSUID=1&amp;LICID=1371">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32923&amp;SYSUID=1&amp;LICID=1371</a>				
<b>Blasting</b>						<b>Time of Blast</b>					
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	<a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=105521&amp;SYSUID=1&amp;LICID=12939">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=105521&amp;SYSUID=1&amp;LICID=12939</a>					

Air											
DD 5	Insoluble Solids	Monthly	0	4	mg/m2/month		Y				NRR
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	4/10/2018	Y	12:00:00 AM	17/10/18		14.90
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	10/10/2018	Y	12:00:00 AM	17/10/18		10.90
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3		Y				NRR
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	4/10/2018	Y	12:00:00 AM	17/10/18		5.50
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	10/10/2018	Y	12:00:00 AM	17/10/18		5.90
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3		Y				NRR

Blasting											
						Time of Blast					
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	2/10/2018	Y	2:13:00 PM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	2/10/2018	Y	2:13:00 PM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	2/10/2018	Y	2:13:00 PM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	2/10/2018	Y	2:13:00 PM			0.00
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	2/10/2018	Y	2:13:00 PM			0.99
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	2/10/2018	Y	2:13:00 PM			0.99
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	4/10/2018	Y	12:24:00 PM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	4/10/2018	Y	12:24:00 PM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	4/10/2018	Y	12:24:00 PM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	4/10/2018	Y	12:24:00 PM			0.00
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	4/10/2018	Y	12:24:00 PM			0.57
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	4/10/2018	Y	12:24:00 PM			0.57
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	5/10/2018	Y	12:24:00 PM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	5/10/2018	Y	12:24:00 PM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	5/10/2018	Y	12:24:00 PM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	5/10/2018	Y	12:24:00 PM			12/30/1899
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	5/10/2018	Y	12:24:00 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	5/10/2018	Y	12:24:00 PM			12/30/1899	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	9/10/2018	Y	11:38:00 AM			12/30/1899	
B4 - Resident	Overpressure	Per Blast	0	115	dB	9/10/2018	Y	11:38:00 AM			12/30/1899	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	9/10/2018	Y	11:38:00 AM			12/30/1899	
B5 - Resident	Overpressure	Per Blast	0	115	dB	9/10/2018	Y	11:38:00 AM			12/30/1899	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	9/10/2018	Y	11:38:00 AM			12/30/1899	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	9/10/2018	Y	11:38:00 AM			12/30/1899	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	10/10/2018	Y	11:44:00 AM			12/30/1899	
B4 - Resident	Overpressure	Per Blast	0	115	dB	10/10/2018	Y	11:44:00 AM			12/30/1899	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	10/10/2018	Y	11:44:00 AM			12/30/1899	
B5 - Resident	Overpressure	Per Blast	0	115	dB	10/10/2018	Y	11:44:00 AM			12/30/1899	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	10/10/2018	Y	11:44:00 AM			12/30/1899	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	10/10/2018	Y	11:44:00 AM			12/30/1899	

## 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/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32932&amp;SYSUID=1&amp;LICID=1453">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32932&amp;SYSUID=1&amp;LICID=1453</a>

Water												
Barracks Creek	pH	Monthly	6.5	8.5	pH	5/10/2018	Y				7.6	
	Total O&G	Monthly	0	10	mg/L	5/10/2018	Y				<1	
	Susp. Solids	Monthly	0	50	mg/L	5/10/2018	Y				3	

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
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	<a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=42179&amp;SYSUID=1&amp;LICID=2212">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=42179&amp;SYSUID=1&amp;LICID=2212</a>

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



# Attachment 4.1H - Environmental Monitoring Worksheet

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			min	max								
	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	<a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=134905&amp;SYSUID=1&amp;LICID=13077">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=134905&amp;SYSUID=1&amp;LICID=13077</a>

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

Monitoring Point	Parameter	Frequency	Min	Max	Units	NSW Environment Protection Licence Requirement	Date Sample Transferred to Laboratory	Date Sample Results Received by Holcim	Date of Remote Data Download	Result	Comments
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	
	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		
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	
	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	



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			min	max								
	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	
<b>Groundwater</b>												
<b>DLP1</b>	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	
<b>DLP2</b>	Sulfate	Yearly	-	-	mg/L		Y				NRR	
	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	
<b>DLP3</b>	Standing Water Level	Yearly	-	-	m		Y				NRR	
	Sulfate	Yearly	-	-	mg/L		Y				NRR	
	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	
<b>DLP5</b>	pH	Yearly	-	-	pH		Y				NRR	
	Standing Water Level	Yearly	-	-	m		Y				NRR	
	Sulfate	Yearly	-	-	mg/L		Y				NRR	
	Ammonia	Yearly	-	-	mg/L		Y				NRR	
	Chloride	Yearly	-	-	mg/L		Y				NRR	
	Electrical conductivity	Yearly	-	-	µm/cm		Y				NRR	
<b>DLP6</b>	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	
	Ammonia	Yearly	-	-	mg/L		Y				NRR	
	Chloride	Yearly	-	-	mg/L		Y				NRR	
<b>DLP7</b>	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**



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			min	max							NRR = No Result Recorded	
							Environment Protection Licence No.	<b>1310</b>				
							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	<a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=35038&amp;SYSUID=1&amp;LICID=1310">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=35038&amp;SYSUID=1&amp;LICID=1310</a>				

Water											
Sediment Basin	TSS	Daily During Discharge		50	mg/L	2/10/2018	Y				38
	pH	Daily During Discharge	6.5	8.5	pH	2/10/2018	Y				8.25
Sediment Basin	TSS	Daily During Discharge		50	mg/L	3/10/2018	Y				39
	pH	Daily During Discharge	6.5	8.5	pH	3/10/2018	Y				7.7
Sediment Basin	TSS	Daily During Discharge		50	mg/L	9/10/2018	Y				23
	pH	Daily During Discharge	6.5	8.5	pH	9/10/2018	Y				7.3
Sediment Basin	TSS	Daily During Discharge		50	mg/L	15/10/18	Y				100
	pH	Daily During Discharge	6.5	8.5	pH	15/10/18	Y				7.48
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.	<b>3293</b>				
							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	<a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=85921&amp;SYSUID=1&amp;LICID=3293">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=85921&amp;SYSUID=1&amp;LICID=3293</a>				

Water											
Water Discharge Point 1	pH	Special Frequency 1	6.5	8.5	pH	12/10/2018	Y				1/6/1900
Water Discharge Point 1	Oil&Grease	Special Frequency 1	0	1	Visible	12/10/2018	Y				12/30/1899
Water Discharge Point 1	TSS	Special Frequency 1	0	50	mg/L	12/10/2018	Y				1/1/1900
Licensed Discharge Point 2	pH	Special Frequency 1	6.5	8.5	pH	12/10/2018	Y				1/6/1900
Licensed Discharge Point 2	Oil&Grease	Special Frequency 1	0	1	Visible	12/10/2018	Y				12/30/1899



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/10/2018 - 15/10/2018

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 2	TSS	Special Frequency 1	0	50	mg/L	12/10/2018	Y				12/31/1899	
Water Discharge Point 1	pH	Special Frequency 1	6.5	8.5	pH	15/10/18	Y				1/6/1900	
Water Discharge Point 1	Oil&Grease	Special Frequency 1	0	1	Visible	15/10/18	Y				12/30/1899	
Water Discharge Point 1	TSS	Special Frequency 1	0	50	mg/L	15/10/18	Y				12/31/1899	
Licensed Discharge Point 2	pH	Special Frequency 1	6.5	8.5	pH	15/10/18	Y				1/6/1900	
Licensed Discharge Point 2	Oil&Grease	Special Frequency 1	0	1	Visible	15/10/18	Y				12/30/1899	
Licensed Discharge Point 2	TSS	Special Frequency 1	0	50	mg/L	15/10/18	Y				1/1/1900	
Licensed Discharge Point 2	pH	Special Frequency 1	6.5	8.5	pH	1/10/2018	Y				1/6/1900	
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
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	



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/10/2018 - 15/10/2018

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								
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
Site Address (As it appears on the licence)	Boambee Quarry North Boambee Road BOAMBE NSW 2450
Link to Licence on EPA Website	<a href="http://app.epa.nsw.gov.au/prpoeoapp/iew/POEOLlicence.aspx?DOCID=108484&amp;SYSUID=1&amp;LICID=7094">http://app.epa.nsw.gov.au/prpoeoapp/iew/POEOLlicence.aspx?DOCID=108484&amp;SYSUID=1&amp;LICID=7094</a>

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	





# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/10/2018 - 15/10/2018

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
	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	<a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLlicence.aspx?DOCID=47350&amp;SYSUID=1&amp;LICID=13359">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLlicence.aspx?DOCID=47350&amp;SYSUID=1&amp;LICID=13359</a>

### Water

ID#2 Surface H2O "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 H2O "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 H2O "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 H2O "Lake 4"	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

### Air

ID #1	Deposited Matter	Monthly	0	4	g/m2/month		Y					NRR
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## 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



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/10/2018 - 15/10/2018

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	
						<a href="#">Link to Licence on EPA Website</a>		<a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOELicence.aspx?DOCID=87197&amp;SYSUID=1&amp;LICID=2796">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOELicence.aspx?DOCID=87197&amp;SYSUID=1&amp;LICID=2796</a>			
<b>Water</b>											
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					
DD 2	Insoluble Solids	Monthly	0 4	mg/m2/month	25/09/2018	Y	5/10/2018	15/10/2018		0.5	
DD 3	Insoluble Solids	Monthly	0 4	mg/m2/month	25/09/2018	Y	5/10/2018	15/10/2018		0.4	
DD 4	Insoluble Solids	Monthly	0 4	mg/m2/month	25/09/2018	Y	5/10/2018	15/10/2018		0.3	
HVAS 1	Insoluble Solids	Monthly	0 4	mg/m2/month	25/09/2018	Y	5/10/2018	15/10/2018		0.4	
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	
<b>Blasting (To determine compliance with L3, measurements to be taken at any point within 1 metre of residential boundary)</b>											
<b>Time of Blast</b>											
	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	
<b>Annual Blasting Requirements ( Calculated each month on a cumulative basis)</b>											
	Overpressure	Monthly (Cumulative)	115 120	dB		Y				NRR	
	Vibration	Monthly (Cumulative)	5 10	mm/s		Y				NRR	