



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 16/11/2018 - 30/11/2018

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 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											
135RL		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					103.1
		Per Blast		5	mm/s	Y					0.64
		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>				

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	<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	16/11/18	Y	20/11/18	27/11/18		1/2/1900
DD 8	Insoluble Solids	Monthly	0	4	mg/m2/month	16/11/18	Y	20/11/18	27/11/18		12/31/1899
DD 11	Insoluble Solids	Monthly	0	4	mg/m2/month	16/11/18	Y	20/11/18	27/11/18		1/1/1900
DD 12	Insoluble Solids	Monthly	0	4	mg/m2/month	16/11/18	Y	20/11/18	27/11/18		12/31/1899
DD 13	Insoluble Solids	Monthly	0	4	mg/m2/month	16/11/18	Y	20/11/18	27/11/18		2.60
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	21/11/18	Y	22/11/18	27/11/18		37.30
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	15/11/18	Y	20/11/18	27/11/18		2.23
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3		Y				NRR
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	21/11/18	Y	22/11/18	27/11/18		0.00
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	15/11/18	Y	20/11/18	27/11/18		NRR
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	16/11/2018	Y	1:06:00 PM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	16/11/2018	Y	1:06:00 PM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	16/11/2018	Y	1:06:00 PM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	16/11/2018	Y	1:06:00 PM			0.00
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	16/11/2018	Y	1:06:00 PM			0.58
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	16/11/2018	Y	1:06:00 PM			0.58
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	20/11/2018	Y	12:12:00 PM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	20/11/2018	Y	12:12:00 PM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	20/11/2018	Y	12:12:00 PM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	20/11/2018	Y	12:12:00 PM			0.00
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	20/11/2018	Y	12:12:00 PM			0.76
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	20/11/2018	Y	12:12:00 PM			0.76
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	23/11/2018	Y	10:28:00 AM			0.00
B4 - Resident	Overpressure	Per Blast	0	115	dB	23/11/2018	Y	10:28:00 AM			0.00
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	23/11/2018	Y	10:28:00 AM			0.00
B5 - Resident	Overpressure	Per Blast	0	115	dB	23/11/2018	Y	10:28:00 AM			12/30/1899
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	23/11/2018	Y	10:28:00 AM			12/30/1899



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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												
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	23/11/2018	Y	10:28:00 AM			12/30/1899	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	27/11/2018	Y	12:02:00 PM			12/30/1899	
B4 - Resident	Overpressure	Per Blast	0	115	dB	27/11/2018	Y	12:02:00 PM			12/30/1899	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	27/11/2018	Y	12:02:00 PM			12/30/1899	
B5 - Resident	Overpressure	Per Blast	0	115	dB	27/11/2018	Y	12:02:00 PM			12/30/1899	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	27/11/2018	Y	12:02:00 PM			12/30/1899	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	27/11/2018	Y	12:02:00 PM			12/30/1899	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	28/11/2018	Y	12:53:53 PM			12/30/1899	
B4 - Resident	Overpressure	Per Blast	0	115	dB	28/11/2018	Y	12:53:53 PM			12/30/1899	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	28/11/2018	Y	12:53:53 PM			12/30/1899	
B5 - Resident	Overpressure	Per Blast	0	115	dB	28/11/2018	Y	12:53:53 PM			12/30/1899	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	28/11/2018	Y	12:53:53 PM			12/31/1899	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	28/11/2018	Y	12:53:53 PM			12/31/1899	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	30/11/2018	Y	1:15:11 PM			12/30/1899	
B4 - Resident	Overpressure	Per Blast	0	115	dB	30/11/2018	Y	1:15:11 PM			12/30/1899	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	30/11/2018	Y	1:15:11 PM			12/30/1899	
B5 - Resident	Overpressure	Per Blast	0	115	dB	30/11/2018	Y	1:15:11 PM			12/30/1899	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	30/11/2018	Y	1:15:11 PM			12/30/1899	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	30/11/2018	Y	1:15:11 PM			12/30/1899	
#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!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	

## 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

Location	Test	Freq	min	max	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

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								
Heffernans House	Overpressure	Per blast	0	115	dB	30/11/18	Y				103	
	Vibration	Per blast	0	5	mm/s	30/11/18	Y				0.27	
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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# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 16/11/2018 - 30/11/2018

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 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	
<b>Groundwater</b>												
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	
DLP2	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	
DLP3	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	
DLP5	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	
DLP6	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	
DLP7	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	
	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	<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	23/11/18	Y				34
	pH	Daily During Discharge	6.5	8.5	pH	23/11/18	Y				7.47
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	<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>



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 16/11/2018 - 30/11/2018

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												
<b>Water</b>												
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH	16-11-2018	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	19-11-2018	Y				1/6/1900	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible	19-11-2018	Y				12/30/1899	
Discharge Point 1	TSS	Special Frequency 1	0	50	mg/L	19-11-2018	Y				12/31/1899	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH	19-11-2018	Y				1/6/1900	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible	19-11-2018	Y				12/30/1899	
Licensed Discharge Point 2	TSS	Special Frequency 1	0	50	mg/L	19-11-2018	Y				1/3/1900	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH	20-11-2018	Y				1/6/1900	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible	20-11-2018	Y				12/30/1899	
Discharge Point 1	TSS	Special Frequency 1	0	50	mg/L	20-11-2018	Y				12/31/1899	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH	20-11-2018	Y				1/6/1900	
Licensed Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible	20-11-2018	Y				12/30/1899	
Licensed Discharge Point 2	TSS	Special Frequency 1	0	50	mg/L	20-11-2018	Y				12/31/1899	
Licensed Discharge Point	pH	Special Frequency 1	6.5	8.5	pH	26-11-2018	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	



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 16/11/2018 - 30/11/2018

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	
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: Boambe Quarry												
							Environment Protection Licence No.	7094				
							Site Name (As it appears on the licence)	Boambe Quarry				





# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 16/11/2018 - 30/11/2018

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 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				0	
Vibration	Per blast	0	10	mm/s	Y				0	
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 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**



# Attachment 4.1H - Environmental Monitoring Worksheet

Period: 16/11/2018 - 30/11/2018

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	11/20/2018	Y	11/27/2018	12/4/2018		1.5	

## 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://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=87197&amp;SYSUID=1&amp;LICID=2796">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.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			Y				
DD 2	Insoluble Solids	Monthly	0	4	mg/m2/month	11/20/2018	Y	11/27/2018	12/4/2018	0.8	
DD 3	Insoluble Solids	Monthly	0	4	mg/m2/month	11/20/2018	Y	11/27/2018	12/4/2018	0.7	
DD 4	Insoluble Solids	Monthly	0	4	mg/m2/month	11/20/2018	Y	11/27/2018	12/4/2018	0.9	
HVAS 1	Insoluble Solids	Monthly	0	4	mg/m2/month	11/20/2018	Y	11/27/2018	12/4/2018	0.9	
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	10/28/2018	Y	11/27/2018	11/29/2018	29.5	
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	11/3/2018	Y	11/27/2018	11/29/2018	34.4	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	11/9/2018	Y	11/27/2018	11/29/2018	17.9	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	11/15/2018	Y	11/27/2018	11/29/2018	32.9	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	11/21/2018	Y	11/27/2018	11/29/2018	14.5	

### 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 cummulative basis)

Overpressure	Monthly (Cumulative)	115	120	dB		Y				NRR	
Vibration	Monthly (Cumulative)	5	10	mm/s		Y				NRR	