Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

Location	Test	Freq	Limit min	Limit 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
											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	27/11/2018	Y	27/11/2018	29/11/2018		8.3	
	Oil and Grease	After 90mm rain	0	0	Visible		Y				NRR	
	TSS	After 90mm rain		50	mg/L	27/11/2018	Y	27/11/2018	29/11/2018		8	
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												
Site 1	Ash	Monthly		90		5/11/2018	Y				27	
Site 2	Ash	Monthly		90		5/11/2018	Y				9	
Site 3	Ash	Monthly		90		5/11/2018	Y				35	
Site 4	Ash	Monthly		90		5/11/2018	Y				15	
Blasting								**Time of Blast**				
83RL		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:	**"Johhniefelds" 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			

Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

Location	Test	Freq	Limit min	Limit 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
			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**	
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	http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=105521&SYSUID=1&LICID=12939

Location	Test	Freq	Limit min	Limit 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
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	3/11/2018	Y	12:00:00 AM	12:00:00 AM		**12.30**	
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3	13/11/18	Y	13/11/18	19/11/18		**4.20**	
HVAS 1	PM10	24hr (every 6 days)	0	50	µg/m3		Y				**NRR**	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	3/11/2018	Y	12:00:00 AM	12:00:00 AM		**20.70**	
HVAS 2	PM10	24hr (every 6 days)	0	50	µg/m3	13/11/18	Y	13/11/18	19/11/18		**0.00**	
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	2/11/2018	Y	3:33:31 PM			**0.00**	
B4 - Resident	Overpressure	Per Blast	0	115	dB	2/11/2018	Y	3:33:31 PM			**0.00**	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	2/11/2018	Y	3:33:31 PM			**0.00**	
B5 - Resident	Overpressure	Per Blast	0	115	dB	2/11/2018	Y	3:33:31 PM			**0.00**	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	2/11/2018	Y	3:33:31 PM			**1.06**	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	2/11/2018	Y	3:33:31 PM			**1.06**	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	6/11/2018	Y	12:06:00 PM			**0.00**	
B4 - Resident	Overpressure	Per Blast	0	115	dB	6/11/2018	Y	12:06:00 PM			**0.00**	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	6/11/2018	Y	12:06:00 PM			**0.00**	
B5 - Resident	Overpressure	Per Blast	0	115	dB	6/11/2018	Y	12:06:00 PM			**0.00**	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	6/11/2018	Y	12:06:00 PM			**0.88**	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	6/11/2018	Y	12:06:00 PM			**0.88**	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	7/11/2018	Y	1:21:40 PM			**0.00**	
B4 - Resident	Overpressure	Per Blast	0	115	dB	7/11/2018	Y	1:21:40 PM			**0.00**	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	7/11/2018	Y	1:21:40 PM			**0.00**	
B5 - Resident	Overpressure	Per Blast	0	115	dB	7/11/2018	Y	1:21:40 PM			**12/30/1899**	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	7/11/2018	Y	1:21:40 PM			**12/30/1899**	

Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

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	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	7/11/2018	Y	1:21:40 PM			**12/30/1899**	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	9/11/2018	Y	11:03:26 AM			**12/30/1899**	
B4 - Resident	Overpressure	Per Blast	0	115	dB	9/11/2018	Y	11:03:26 AM			**12/30/1899**	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	9/11/2018	Y	11:03:26 AM			**12/30/1899**	
B5 - Resident	Overpressure	Per Blast	0	115	dB	9/11/2018	Y	11:03:26 AM			**12/30/1899**	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	9/11/2018	Y	11:03:26 AM			**12/30/1899**	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	9/11/2018	Y	11:03:26 AM			**12/30/1899**	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	13/11/2018	Y	11:01:00 AM			**12/30/1899**	
B4 - Resident	Overpressure	Per Blast	0	115	dB	13/11/2018	Y	11:01:00 AM			**12/30/1899**	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	13/11/2018	Y	11:01:00 AM			**12/30/1899**	
B5 - Resident	Overpressure	Per Blast	0	115	dB	13/11/2018	Y	11:01:00 AM			**12/30/1899**	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	13/11/2018	Y	11:01:00 AM			**12/31/1899**	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	13/11/2018	Y	11:01:00 AM			**12/31/1899**	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	14/11/2018	Y	1:22:00 PM			**12/30/1899**	
B4 - Resident	Overpressure	Per Blast	0	115	dB	14/11/2018	Y	1:22:00 PM			**12/30/1899**	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	14/11/2018	Y	1:22:00 PM			**12/30/1899**	
B5 - Resident	Overpressure	Per Blast	0	115	dB	14/11/2018	Y	1:22:00 PM			**12/30/1899**	
B6 - Rail	Peak Particle Velocity	Per Blast	0	25	mm/sec	14/11/2018	Y	1:22:00 PM			**12/30/1899**	
B6 - Pipeline	Peak Particle Velocity	Per Blast	0	100	mm/sec	14/11/2018	Y	1:22:00 PM			**12/30/1899**	
B4 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	15/11/2018	Y	11:52:00 AM			**12/30/1899**	
B4 - Resident	Overpressure	Per Blast	0	115	dB	15/11/2018	Y	11:52:00 AM			**12/30/1899**	
B5 - Resident	Peak Particle Velocity	Per Blast	0	5	mm/sec	15/11/2018	Y	11:52:00 AM			**12/30/1899**	
B5 - Resident	Overpressure	Per Blast	0	115	dB	15/11/2018	Y	11:52:00 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	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	2/11/2018	Y				**8**	
	Total O&G	Monthly	0	10	mg/L	2/11/2018	Y				**<1**	
	Susp. Solids	Monthly	0	50	mg/L	2/11/2018	Y				**3**	
Blasting								**Time of Blast**				
Heffernans House	Overpressure	Per blast	0	115	dB	5/11/2018	Y	12/30/1899			**106**	
	Vibration	Per blast	0	5	mm/s	5/11/2018	Y	12/30/1899			**0.72**	
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**

Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

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	
							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

Location	Test	Freq	Limit min	Limit 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
							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**	
	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**	

Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

Location	Test	Freq	Limit min	Limit 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
			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		6/11/2018	20/11/2018	**NRR**	
	Chloride	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
	Electrical conductivity	Yearly	-	-	µm/cm		Y		6/11/2018	20/11/2018	**5/21/1900**	
	Oil and Grease	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**<0.1**	
	pH	Yearly	-	-	pH		Y		6/11/2018	20/11/2018	**1/3/1900**	
	Standing Water Level	Yearly	-	-	m		Y		6/11/2018	20/11/2018	**12/31/1899**	
	Sulfate	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
#REF!	#REF!	#REF!	-	-	#REF!	#REF!	Y		#REF!	#REF!	**#REF!**	#REF!
#REF!	#REF!	#REF!	-	-	#REF!	#REF!	Y		#REF!	#REF!	**#REF!**	#REF!
#REF!	#REF!	#REF!	-	-	#REF!	#REF!	Y		#REF!	#REF!	**#REF!**	#REF!
#REF!	#REF!	#REF!	-	-	#REF!	#REF!	Y		#REF!	#REF!	**#REF!**	#REF!
#REF!	#REF!	#REF!	-	-	#REF!	#REF!	Y		#REF!	#REF!	**#REF!**	#REF!
#REF!	#REF!	#REF!	-	-	#REF!	#REF!	Y		#REF!	#REF!	**#REF!**	#REF!
#REF!	#REF!	#REF!	-	-	#REF!	#REF!	Y		#REF!	#REF!	**#REF!**	#REF!
DLP3	Ammonia	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
	Chloride	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
	Electrical conductivity	Yearly	-	-	µm/cm		Y		6/11/2018	20/11/2018	**10/1/1920**	
	Oil and Grease	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**1/12/1900**	
	pH	Yearly	-	-	pH		Y		6/11/2018	20/11/2018	**1/4/1900**	
	Standing Water Level	Yearly	-	-	m		Y		6/11/2018	20/11/2018	**12/31/1899**	
	Sulfate	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
DLP5	Ammonia	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
	Chloride	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
	Electrical conductivity	Yearly	-	-	µm/cm		Y		6/11/2018	20/11/2018	**10/22/1900**	
	Oil and Grease	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**<0.1**	
	pH	Yearly	-	-	pH		Y		6/11/2018	20/11/2018	**1/3/1900**	
	Standing Water Level	Yearly	-	-	m		Y		6/11/2018	20/11/2018	**12/31/1899**	
	Sulfate	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
DLP6	Ammonia	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
	Chloride	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
	Electrical conductivity	Yearly	-	-	µm/cm		Y		6/11/2018	20/11/2018	**9/25/1901**	
	Oil and Grease	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**12/30/1899**	
	pH	Yearly	-	-	pH		Y		6/11/2018	20/11/2018	**1/3/1900**	
	Standing Water Level	Yearly	-	-	m		Y		6/11/2018	20/11/2018	**12/31/1899**	
	Sulfate	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	
DLP7	Ammonia	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	**NRR**	

Holcim Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

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	
	Chloride	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	NRR	
	Electrical conductivity	Yearly	-	-	µm/cm		Y		6/11/2018	20/11/2018	8/30/1909	
	Oil and Grease	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	12/31/1899	
	pH	Yearly	-	-	pH		Y		6/11/2018	20/11/2018	1/5/1900	
	Standing Water Level	Yearly	-	-	m		Y		6/11/2018	20/11/2018	12/31/1899	
	Sulfate	Yearly	-	-	mg/L		Y		6/11/2018	20/11/2018	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

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
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://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=85921&SYSUID=1&LICID=3293

Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

NRR = No Result Recorded

Location	Test	Freq	Limit min	Limit 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
Water												
Licenced Discharge Point 2	pH	Special Frequency 1	6.5	8.5	pH	2/11/2018	Y				1/6/1900	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Discharge 1 Point	pH	Special Frequency 1	6.5	8.5	pH	5/11/2018	Y				1/6/1900	
Discharge 1 Point	Oil&Grease	Special Frequency 1	0	1	Visible	5/11/2018	Y				12/30/1899	
Discharge 1 Point	TSS	Special Frequency 1	0	50	mg/L	5/11/2018	Y				1/2/1900	
Licenced Discharge 2 Point	pH	Special Frequency 1	6.5	8.5	pH	5/11/2018	Y				1/6/1900	
Licenced Discharge 2 Point	Oil&Grease	Special Frequency 1	0	1	Visible	5/11/2018	Y				12/30/1899	
Licenced Discharge 2 Point	TSS	Special Frequency 1	0	50	mg/L	5/11/2018	Y				1/1/1900	
Discharge 1 Point	pH	Special Frequency 1	6.5	8.5	pH	6/11/2018	Y				1/6/1900	
Discharge 1 Point	Oil&Grease	Special Frequency 1	0	1	Visible	6/11/2018	Y				12/30/1899	
Discharge 1 Point	TSS	Special Frequency 1	0	50	mg/L	6/11/2018	Y				12/31/1899	
Licenced Discharge 2 Point	pH	Special Frequency 1	6.5	8.5	pH	6/11/2018	Y				1/6/1900	
Licenced Discharge 2 Point	Oil&Grease	Special Frequency 1	0	1	Visible	6/11/2018	Y				12/30/1899	
Licenced Discharge 2 Point	TSS	Special Frequency 1	0	50	mg/L	6/11/2018	Y				12/31/1899	
Discharge 1 Point	pH	Special Frequency 1	6.5	8.5	pH	7/11/2018	Y				1/6/1900	
Discharge 1 Point	Oil&Grease	Special Frequency 1	0	1	Visible	7/11/2018	Y				12/30/1899	
Discharge 1 Point	TSS	Special Frequency 1	0	50	mg/L	7/11/2018	Y				12/31/1899	
Licenced Discharge 2 Point	pH	Special Frequency 1	6.5	8.5	pH	7/11/2018	Y				1/6/1900	
Licenced Discharge 2 Point	Oil&Grease	Special Frequency 1	0	1	Visible	7/11/2018	Y				12/30/1899	
Licenced Discharge 2 Point	TSS	Special Frequency 1	0	50	mg/L	7/11/2018	Y				12/31/1899	
Discharge 1 Point	pH	Special Frequency 1	6.5	8.5	pH	8/11/2018	Y				1/6/1900	
Discharge 1 Point	Oil&Grease	Special Frequency 1	0	1	Visible	8/11/2018	Y				12/30/1899	
Discharge 1 Point	TSS	Special Frequency 1	0	50	mg/L	8/11/2018	Y				12/31/1899	
Licenced Discharge 2 Point	pH	Special Frequency 1	6.5	8.5	pH	8/11/2018	Y				1/6/1900	
Licenced Discharge 2 Point	Oil&Grease	Special Frequency 1	0	1	Visible	8/11/2018	Y				12/30/1899	
Licenced Discharge 2 Point	TSS	Special Frequency 1	0	50	mg/L	8/11/2018	Y				1/1/1900	
Licenced Discharge Point 2	pH	Special Frequency 1	6.5	8.5	pH	13-11-2018	Y				1/6/1900	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licenced Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licenced Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licenced Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	

Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

Location	Test	Freq	Limit min	Limit 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
			min	max							NRR = No Result Recorded	
Licenced Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licenced Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licenced Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licenced Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced Discharge Point	TSS	Special Frequency 1	0	50	mg/L		Y				NRR	
Licenced Discharge Point	pH	Special Frequency 1	6.5	8.5	pH		Y				NRR	
Licenced Discharge Point	Oil&Grease	Special Frequency 1	0	1	Visible		Y				NRR	
Licenced 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	http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=108484&SYSUID=1&LICID=7094

Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

Location	Test	Freq	Limit min	Limit 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
											NRR = No Result Recorded	
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				
RL 95	Overpressure	Per blast	0	120	dB		Y	12/30/1899	12/11/2018		**94.7**	Shot 201
RL95	Vibration	Per blast	0	10	mm/s		Y	12/30/1899	12/11/2018		**1.36**	Shot 201
	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/ViewPOEOLicence.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												
ID #1	Depositied Matter	Monthly	0	4	g/m2/month		Y				**NRR**	

Site: Jandra Quarry

Attachment 4.1H - Environmental Monitoring Worksheet

Period: 01/11/2018 - 15/11/2018

NRR = No Result Recorded

Environment Protection Licence No.	**2796**
Site Name (As it appears on the licence)	Jandra Quarry
Site Address (As it appears on the licence)	Pacfic Highway Possum Brush NSW 2430
Link to Licence on EPA Website	http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=87197&SYSUID=1&LICID=2796

Location	Test	Freq	Limit min	Limit 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
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								
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 cummulative basis)												
	Overpressure	Monthly (Cummulative)	115	120	dB		Y				**NRR**	
	Vibration	Monthly (Cummulative)	5	10	mm/s		Y				**NRR**	