



Attachment 4.1H - Environmental Monitoring Worksheet

Period: 4/1/2017 - 15/04/2017

Location	Test	Freq	Limit		Units	Sample Date	NSW Environment Protection Licence Requirement	Date Sample Transferred to Laboratory	Date Sample Results Received by Holcim	Date of Remote Data Download	Result	Comments
			min	max								

NRR = No Result Recorded

Site: **Albion Park Quarry**

Environment Protection Licence No.	122
Site Name (As it appears on the licence)	Albion Park Quarry
Site Address (As it appears on the licence)	Albion Park Quarry Woollybutt Drive ALBION PARK RAIL NSW 2527
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31016&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

Site 1	Ash	Monthly		90		04.04.2017	Y				2.4
Site 2	Ash	Monthly		90		04.04.2017	Y				0.8
Site 3	Ash	Monthly		90		04.04.2017	Y				2
Site 4	Ash	Monthly		90		04.04.2017	Y				0.9

Blasting

		Per Blast		5	mm/s		Y				0.38
		Per Blast		115	dB		Y				81.6
		Per Blast		5	mm/s		Y				0.32
		Per Blast		115	dB		Y				81.6
		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



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min max

NRR = No Result Recorded

Site: "Johniefelds" Marulan Quarry

Environment Protection Licence No.	1371
Site Name (As it appears on the licence)	Marulan Quarry
Site Address (As it appears on the licence)	Marulan Quarry Brayton Road MARULAN NSW 2579
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=28960&SYSUID=1&LICID=1371

Blasting											
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://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=28960&SYSUID=1&LICID=12939

Air											
DD 1	Insoluble Solids	Monthly	0	4	mg/m2/month		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
DD 5	Insoluble Solids	Monthly	0	4	mg/m2/month		Y				NRR
DD 6	Insoluble Solids	Monthly	0	4	mg/m2/month		Y				NRR
DD 7	Insoluble Solids	Monthly	0	4	mg/m2/month		Y				NRR
DD 8	Insoluble Solids	Monthly	0	4	mg/m2/month		Y				NRR
HVAS 1	24hr (every 6 days)	Mandatory	50	µg/m3	PM10	6/4/2017	Y	7/4/2017	#VALUE!	#VALUE!	#VALUE!
HVAS 1	24hr (every 6 days)	Mandatory	50	µg/m3	PM10	12/4/2017	Y	13/4/17	#VALUE!	#VALUE!	#VALUE!
HVAS 1	24hr (every 6 days)	Mandatory	50	µg/m3	PM10	18/4/17	Y	20/4/17	#VALUE!	#VALUE!	#VALUE!
HVAS 2	24hr (every 6 days)	Mandatory	50	µg/m3	PM10	6/4/2017	Y	7/4/2017	#VALUE!	#VALUE!	#VALUE!



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			min	max								
HVAS 2	24hr (every 6 days)	Mandatory	50	µg/m3	PM10	12/4/2012	Y	13/4/17	#VALUE!	#VALUE!	#VALUE!	NRR = No Result Recorded
HVAS 2	24hr (every 6 days)	Mandatory	50	µg/m3	PM10	18/4/17	Y	20/4/17	#VALUE!	#VALUE!	#VALUE!	
Blasting												
B3	Peak Particle Velocity	Per Blast	0	5	mm/sec	11/4/2017	Y	12/30/1899			0	
B3	Overpressure	Per Blast	0	115	dB	11/4/2017	Y	12/30/1899			0	
B3	Peak Particle Velocity	Per Blast	0	5	mm/sec	13/04:17	Y	12/30/1899			0	
B3	Overpressure	Per Blast	0	115	dB	13/04:17	Y	12/30/1899			0	
B3	Peak Particle Velocity	Per Blast	0	5	mm/sec		Y				NRR	
B3	Overpressure	Per Blast	0	115	dB		Y				NRR	
Annual Blasting Requirements (Calculated each month on a cumulative basis)												
B3	Peak Particle Velocity	5% Total Annually	0	5	%		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://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=28929&SYSUID=1&LICID=1453

Water												
Barracks Creek	pH	Monthly	6.5	8.5	pH	3/4/2017	Y				7.3	
	Total O&G	Monthly	0	10	mg/L	3/4/2017	Y				<1	
	Susp. Solids	Monthly	0	50	mg/L	3/4/2017	Y				<2	
Blasting												
Heffernans House	Overpressure	Per blast	0	115	dB	7/4/2017	Y				99.1	
	Vibration	Per blast	0	5	mm/s	7/4/2017	Y				0.65	
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



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			min	max							NRR = No Result Recorded
						Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLlicence.aspx?DOCID=29036&SYSUID=1&LICID=2212				
Blasting											
WARRENS HOUSE	Overpressure	Per blast		120	dB	Y				NRR	
	Vibration	Per blast		10	mm/s	Y				NRR	
WARRENS HOUSE	Overpressure	Per blast		120	dB	Y				NRR	
	Vibration	Per blast		10	mm/s	Y				NRR	
WARRENS HOUSE	Overpressure	Per blast		120	dB	Y				NRR	
	Vibration	Per blast		10	mm/s	Y				NRR	
WARRENS HOUSE	Overpressure	Per blast		120	dB	Y				NRR	
	Vibration	Per blast		10	mm/s	Y				NRR	

Site: Humes - Blacktown

Environment Protection Licence No.	1310
Site Name (As it appears on the licence)	Humes Blacktown
Site Address (As it appears on the licence)	Humes Blacktown Lot 1 Woodstock Ave ROOTY HILL NSW 2766
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLlicence.aspx?DOCID=28958&SYSUID=1&LICID=1310

Water											
Sediment Basin	TSS	Daily During Discharge		50	mg/L	5/4/2017	Y			22	
	pH	Daily During Discharge	6.5	8.5	pH	5/4/2017	Y			7.45	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	6/4/2017	Y			29	
	pH	Daily During Discharge	6.5	8.5	pH	6/4/2017	Y			7.46	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	7/4/2017	Y			21	
	pH	Daily During Discharge	6.5	8.5	pH	7/4/2017	Y			7.85	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	11/4/2017	Y			21	
	pH	Daily During Discharge	6.5	8.5	pH	11/4/2017	Y			7	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	12/4/2017	Y			31	
	pH	Daily During Discharge	6.5	8.5	pH	12/4/2017	Y			7.5	
Sediment Basin	TSS	Daily During Discharge		50	mg/L	13/04/2017	Y			24	
	pH	Daily During Discharge	6.5	8.5	pH	13/04/2017	Y			7.3	
Sediment Basin	TSS	Daily During Discharge		50	mg/L		Y			NRR	
	pH	Daily During Discharge	6.5	8.5	pH		Y			NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L		Y			NRR	
	pH	Daily During Discharge	6.5	8.5	pH		Y			NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L		Y			NRR	
	pH	Daily During Discharge	6.5	8.5	pH		Y			NRR	
Sediment Basin	TSS	Daily During Discharge		50	mg/L		Y			NRR	
	pH	Daily During Discharge	6.5	8.5	pH		Y			NRR	



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			min	max							NRR = No Result Recorded
Sediment Basin	TSS	Daily During Discharge	6.5	50	mg/L	Y				NRR	
	pH	Daily During Discharge	6.5	8.5	pH	Y				NRR	

Site: Teven Quarry

Environment Protection Licence No.	3293
Site Name (As it appears on the licence)	Readymix Teven Quarry
Site Address (As it appears on the licence)	Stokers Lane Teven NSW 2478
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=29168&SYSUID=1&LICID=3293

Blasting											
ID #1	pH	Weekly	6.5	8.5	pH	3/4/2017	Y				7.7
ID #1	pH	Weekly	6.5	8.5	pH	10/4/2017	Y				7.6
ID #1	Oil&Grease	Yearly during discharge (August)	0	10	mg/L		Y				NRR
ID #1	TSS	Yearly during discharge (August)	0	50	mg/L		Y				NRR
Noise											
144 Stokers Lane - Murphy's Residence	dB(A) L Aeq 15 min	Not specified	0	46	dB		Y				NRR

Site: Boambee Quarry

Environment Protection Licence No.	7094
Site Name (As it appears on the licence)	Boambee Quarry
Site Address (As it appears on the licence)	Boambee Quarry North Boambee Road BOAMBE NSW 2450
Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31235&SYSUID=1&LICID=7094

Blasting (M4 & L2.1 - To determine compliance with L3, measurements to be taken at any point within 1 metre of residential boundary)												
	Overpressure	Per blast	0	120	dB	12/4/2017	Y	12/4/2017	12/4/2017		99.5	Shot 175
	Vibration	Per blast	0	10	mm/s	12/4/2017	Y	12/4/2017	12/4/2017		0.99	Shot 175
	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



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Period: 4/1/2017 - 15/04/2017

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													
							Environment Protection Licence No.	13359					
							Site Name (As it appears on the licence)	Tuncurry Sand Quarry					
							Site Address (As it appears on the licence)	Tip Road Tuncurry NSW 2428					
							Link to Licence on EPA Website	http://www.environment.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=30945&SYSUID=1&LICID=13359					
Water													
ID#2 Surface H2O "Lake 1"	Arsenic	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.001		
	Conductivity	Quarterly	0		µS/cm	11/4/2017	Y	24/04/2017	24/04/2017		184		
	Copper	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.001		
	Iron	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.08		
	pH	Quarterly	0		pH	11/4/2017	Y	24/04/2017	24/04/2017		7.1		
	Zinc	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.005		
ID#3 Surface H2O "Lake 2"	Arsenic	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.001		
	Conductivity	Quarterly	0		µS/cm	11/4/2017	Y	24/04/2017	24/04/2017		265		
	Copper	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.001		
	Iron	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.09		
	pH	Quarterly	0		pH	11/4/2017	Y	24/04/2017	24/04/2017		7.2		
	Zinc	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.005		
ID#4 Surface H2O "Lake 3"	Arsenic	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.002		
	Conductivity	Quarterly	0		µS/cm	11/4/2017	Y	24/04/2017	24/04/2017		308		
	Copper	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.001		
	Iron	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.18		
	pH	Quarterly	0		pH	11/4/2017	Y	24/04/2017	24/04/2017		7.4		
	Zinc	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.005		
ID#5 Surface H2O "Lake 4"	Arsenic	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.004		
	Conductivity	Quarterly	0		µS/cm	11/4/2017	Y	24/04/2017	24/04/2017		367		
	Copper	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.001		
	Iron	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.01		
	pH	Quarterly	0		pH	11/4/2017	Y	24/04/2017	24/04/2017		7.4		
	Zinc	Quarterly	0		mg/L	11/4/2017	Y	24/04/2017	24/04/2017		0.005		
Air													
ID #1	Deposited Matter	Monthly	0	4	g/m2/month	11/4/2017	Y	20/04/2017	20/04/2017		1		

Site: **Jandra Quarry**

Environment Protection Licence No.	2796
Site Name (As it appears on the licence)	Jandra Quarry



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min max

NRR = No Result Recorded

Site Address
(As it appears on the licence)

Pacific Highway Possum Brush NSW 2430

Link to Licence on EPA Website

<http://www.environment.nsw.gov.au/prpoeoapp/ViewPOELicence.aspx?DOCID=30958&SYSUID=1&LICID=2796>

Water

ID #1	Discharge pH	Each overflow event	6.5	8.5	pH	19/4/2017	Y	19/4/2017	21/4/2017	8	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L	19/4/2017	Y	19/4/2017	21/4/2017	2	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L	19/4/2017	Y	19/4/2017	21/4/2017	2	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu	19/4/2017	Y	19/4/2017	21/4/2017	3.2	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu	19/4/2017	Y	19/4/2017	21/4/2017	3.1	
ID #1	Discharge pH	Each overflow event	6.5	8.5	pH	20/4/2017	Y	20/4/2017	22/4/2017	8.1	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L	20/4/2017	Y	20/4/2017	22/4/2017	3	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L	20/4/2017	Y	20/4/2017	22/4/2017	2	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu	20/4/2017	Y	20/4/2017	22/4/2017	2.8	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu	20/4/2017	Y	20/4/2017	22/4/2017	2.7	
ID #1	Discharge pH	Each overflow event	6.5	8.5	pH	21/4/2017	Y	21/4/2017	23/4/2017	8.1	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L	21/4/2017	Y	21/4/2017	23/4/2017	2	
ID #1	Discharge TSS	2 X Daily during discharge	0	50	mg/L	21/4/2017	Y	21/4/2017	23/4/2017	2	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu	21/4/2017	Y	21/4/2017	23/4/2017	2.4	
ID #1	Discharge Turbidity	2 X Daily during discharge	0		ntu	21/4/2017	Y	21/4/2017	23/4/2017	2.2	
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	
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	
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	



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			min max							NRR = No Result Recorded	
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	
Blasting (To determine compliance with L3, measurements to be taken at any point within 1 metre of residential boundary)											
	Overpressure	Per blast	0 120	dB		Y				NRR	
	Vibration	Per blast	0 10	mm/s		Y				NRR	
	Overpressure	Per blast	0 120	dB		Y				NRR	
	Vibration	Per blast	0 10	mm/s		Y				NRR	
	Overpressure	Per blast	0 120	dB		Y				NRR	
	Vibration	Per blast	0 10	mm/s		Y				NRR	
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	