

**Pollution Monitoring Data - Holcim Dunloe Sand Quarry (EPL Number 13077)**

Facility Address	Pottsville-Mooball Road, MOOBALL, NSW, 2483
Link to EPL on Public Register	<a href="https://apps.epa.nsw.gov.au/pprocapp/Detail.aspx?instid=13077&amp;id=13077&amp;option=licence&amp;searchrange=licence&amp;range=POEO%20licence&amp;ppr=no&amp;status=issued">https://apps.epa.nsw.gov.au/pprocapp/Detail.aspx?instid=13077&amp;id=13077&amp;option=licence&amp;searchrange=licence&amp;range=POEO%20licence&amp;ppr=no&amp;status=issued</a>
Date published	09/12/2021

**Air Quality Monitoring - Deposition Results**

Location	Frequency	Source	Lower Limit	Upper Limit	Unit	Description	Month Sample Date	Annual average (2021)	Monthly data used for determining Annual average only											
									January 11/01/2021	February 11/02/2021	March 15/03/2021	April 13/04/2021	May 12/05/2021	June 10/06/2021	July 07/08/2021	August 08/08/2021	September 09/09/2021	October 10/11/2021		
Haul Road	Monthly	EPL	-	4	g/m2/month	Insoluble Solids	Result	0.4	0.2	0.5	0.2	0.4	0.3	0.2	0.2	0.3	0.8	1.1		
Windmill	Monthly	EPL	-	4	g/m2/month	Insoluble Solids	Result	0.4	No data	0.3	0.6	0.6	0.5	0.2	0.1	0.4	0.4	0.7		
Sugar Shed	Monthly	EPL	-	4	g/m2/month	Insoluble Solids	Result	1.0	0.7	2.5	0.7	1.3	1.9	0.2	0.3	0.3	0.5	1.2		
Black Rock	Monthly	EPL	-	4	g/m2/month	Insoluble Solids	Result	7.1	0.5	1.1	12	1.5	14	7	Invalidated	18	8.2	1.2		
Laboratory Report Issue Date								N/A	20/01/2021	23/02/2021	31/03/2021	23/04/2021	27/05/2021	24/06/2021	20/07/2021	24/08/2021	27/09/2021	11/03/2021		

Comments regarding deposition monitoring outcomes

Comment 1:	No sample for Windmill DDG in January - stand damaged
Comment 2:	Black Rock DDG sample for July invalid - funnel found broken on ground, likely as a result of wind
Comment 3:	
Comment 4:	
Comment 5:	
Comment 6:	
Comment 7:	
Comment 8:	

**Noise Monitoring Results**

Location	Frequency	Source	Lower Criteria	Upper Criteria	Unit	Description	Quarter Sample Date	2021					
								Q1	Q2	Q3	Q4		
NE Boundary Near Overall Road R1	Quarterly (EMP R7.2)	EPL Section L4	-	48	dB(A)	L <sub>Aeq</sub> (15 min) Day	Estimated quarry contribution	Time	31/03/2021	19/05/2021	19/05/2021		
Dwelling Pottsville Road R2	Quarterly (EMP R7.2)	EPL Section L4	-	48	dB(A)	L <sub>Aeq</sub> (15 min) Day	Estimated quarry contribution	-	-	-	-	-	-
Dwelling Warwick Park Road R3	Quarterly (EMP R7.2)	EPL Section L4	-	48	dB(A)	L <sub>Aeq</sub> (15 min) Day	Estimated quarry contribution	-	-	-	-	-	-
26 Warwick Park Road R4	Quarterly (EMP R7.2)	EPL Section L4	-	48	dB(A)	L <sub>Aeq</sub> (15 min) Day	Estimated quarry contribution	-	-	-	-	-	-
157 Warwick Park Road R6	Quarterly (EMP R7.2)	EPL Section L4	-	42	dB(A)	L <sub>Aeq</sub> (15 min) Day	Estimated quarry contribution	12:05	0	9:50	<35	12:17	<35
129 Warwick Park Road R7	Quarterly (EMP R7.2)	EPL Section L4	-	48	dB(A)	L <sub>Aeq</sub> (15 min) Day	Estimated quarry contribution	11:48	0	10:12	<35	12:39	<35
679 Pottsville Road R8	Quarterly (EMP R7.2)	EPL Section L4	-	41	dB(A)	L <sub>Aeq</sub> (15 min) Day	Estimated quarry contribution	11:26	0	10:39	<40	13:01	<35
Laboratory Report Issue Date								31/03/2021	27/05/2021	31/07/2021			

Comments regarding noise monitoring outcomes

Comment 1:	Quarry not operational during Q1 noise monitoring due to high rainfall and flooding
Comment 2:	
Comment 3:	

**Surface Water Results**

**Discharge Surface Water Monitoring Results**

Location	Frequency	Source	Lower Criteria	Upper Criteria	Unit	Description	Month	2021											
								Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021		
Point 1 Silt Pond	Within 24 Hours Prior to Discharge & Daily During Each Discharge Event	EPL Section 5	6.5	8.5	pH units	pH	Result	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
			-	-	V = Visible NV = None Visible	Total Oil & Grease	Result	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
			0	50	mg/L	Suspended Solids	Result	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
Point 2 Dredge Pond	Within 24 Hours Prior to Discharge & Daily During Each Discharge Event	EPL Section 5	6.5	8.5	pH units	pH	Result	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
			-	-	V = Visible NV = None Visible	Total Oil & Grease	Result	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
			0	50	mg/L	Suspended Solids	Result	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
Laboratory report issue date								NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		

**EMP - Blue Green Algae Monitoring Requirements**

Location	Frequency	Source	Lower Criteria	Upper Criteria	Unit	Description	Month Sample Date	2021																
								January 2021	January 2021	February 2021	February 2021	March 2021	March 2021	April 2021	May 2021	June 2021	July 2021	August 2021	September 2021	October 2021	October 2021			
Dredge Pond	Monthly	EMP Section 7.4.7	-	50000	cells/mL	of cells/mL (M.aeruginosa)	Result	1	1	1	1	1	1	1	1	1	1	1	1					
			-	4	mm3/L	total biovolume	Result	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01					
			-	50000	cells/mL	of cells/mL (M.aeruginosa)	Result	1	1	1	1	1	1	1	1	1	1	1	1	1				
Silt Pond	Monthly	EMP Section 7.4.7	-	4	mm3/L	total biovolume	Result	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01					
			Laboratory report issue date								12/01/2021	22/01/2021	12/02/2021	03/03/2021	16/03/2021	23/03/2021	14/04/2021	13/05/2021	06/11/2021	07/09/2021	11/08/2021	10/09/2021	11/10/2021	26/10/2021

2021 Comments regarding blue green algae monitoring requirements

Comment 1:	Records for second week of Feb 2021 done late due to off sick and unable to sample done first day back 03/03/2021
Comment 2:	
Comment 3:	
Comment 4:	
Comment 5:	
Comment 6:	

**EMP - Monthly Surface Water Monitoring Requirements**

Location	Frequency	Source	Lower Criteria	Upper Criteria	Unit	Description	Month Sample Date	2021											
								January 11/1/2021	February 11/2/2021	March 15/3/2021	April 13/4/2021	May 12/5/2021	June 10/6/2021	July 08/7/2021	August 09/8/2021	September 09/9/2021	October 11/10/2021		
Pond 1 - Silt Pond	Monthly	EMP Section 6.2	5	8.5	pH units	pH	Result	4.5	5.76	6.7	6.3	6.4	6.7	6.4	6.5	6.1	7.8		
			0	5500	µS/cm	Electrical Conductivity	Result	628	772	694	667	730	675	715	631	431	2160		
			4	-	mg/L	Dissolved Oxygen	Result	7.02	6.8	6.1	6.1	7.3	5.9	5.6	6	7.8	8.7		
			0	20	NTU	Turbidity	Result	1.9	4.9	3.1	1.4	6.8	37.9	25.4	0.7	18.2	18.2		
			5	10	mg/L	Oil & Grease	Result	5	5	5	19	5	23	5	42	12	23		
			5	8.5	pH units	pH	Result	4.06	4.71	4.5	6.6	5.9	5.6	6.2	6.3	5.1	7.2		
			0	5500	µS/cm	Electrical Conductivity	Result	717	744	588	682	676	677	700	747	420	427		





Monitoring Bore	Frequency	Section	Parameter	Unit	Result	Limit 1	Limit 2	Limit 3	
Ground Water Monitoring Bore DLP1	Quarterly	EMP Section 7.4.10	0	100	mg/L	Magnesium	5	1.8	4.6
			0	0.15	mg/L	Manganese	0.087	0.061	0.079
			0	40	mg/L	Potassium	5	1.3	2.8
			0	500	mg/L	Sodium	5.2	4.7	29
			0	0.5	mg/L	Soluble Aluminium	0.12	0.1	0.05
			0	7.5	µg/L	Sulphate	0.12	0.26	0.08
			0	800	mg/L	Oil & Grease	48	27	90
			-	-	mg/L	Ammonia	10	10	18
			-	-	mg/L	Ammonia	2.9	2.7	3.1
			-	-	µg/L	Arsenic	0.001	0.001	0.001
Ground Water Monitoring Bore DLP3	Quarterly	EMP Section 7.4.10	0	400	mg/L	Bicarbonate	170	210	170
			0	55	mg/L	Calcium	93	78	90
			0	1000	mg/L	Chloride	2500	2500	2600
			0	100	mg/L	Magnesium	130	110	130
			0	0.15	mg/L	Manganese	0.66	0.64	0.71
			0	40	mg/L	Potassium	50	38	48
			0	500	mg/L	Sodium	1400	1100	1400
			0	0.5	mg/L	Soluble Aluminium	0.08	0.07	0.1
			0	7.5	µg/L	Sulphate	12	12	13
			0	800	mg/L	Oil & Grease	210	180	190
Ground Water Monitoring Bore DLP5	Quarterly	EMP Section 7.4.10	0	400	mg/L	Bicarbonate	20	20	20
			0	55	mg/L	Calcium	5	0.9	1.4
			0	1000	mg/L	Chloride	120	42	71
			0	100	mg/L	Magnesium	5	1	2.5
			0	0.15	mg/L	Manganese	0.02	0.005	0.01
			0	40	mg/L	Potassium	5	1.4	2.1
			0	500	mg/L	Sodium	72	40	55
			0	0.5	mg/L	Soluble Aluminium	0.24	0.38	0.45
			0	7.5	µg/L	Sulphate	1.3	0.63	0.49
			0	800	mg/L	Oil & Grease	72	28	34
Ground Water Monitoring Bore DLP6	Quarterly	EMP Section 7.4.10	0	400	mg/L	Bicarbonate	20	20	20
			0	55	mg/L	Calcium	16	7.3	24
			0	1000	mg/L	Chloride	47	21	18
			0	100	mg/L	Magnesium	5	2.1	21
			0	0.15	mg/L	Manganese	0.11	0.13	0.11
			0	40	mg/L	Potassium	5	3.5	3.9
			0	500	mg/L	Sodium	13	10	74
			0	0.5	mg/L	Soluble Aluminium	1.7	0.56	1.5
			0	7.5	µg/L	Sulphate	24	22	19
			0	800	mg/L	Oil & Grease	110	65	83
Ground Water Monitoring Bore DLP7	Quarterly	EMP Section 7.4.10	0	400	mg/L	Bicarbonate	440	580	490
			0	55	mg/L	Calcium	18	18	20
			0	1000	mg/L	Chloride	670	710	740
			0	100	mg/L	Magnesium	34	33	41
			0	0.15	mg/L	Manganese	0.069	0.065	0.075
			0	40	mg/L	Potassium	24	23	26
			0	500	mg/L	Sodium	590	570	640
			0	0.5	mg/L	Soluble Aluminium	1	0.5	0.51
			0	7.5	µg/L	Sulphate	1.2	1	1.3
			0	800	mg/L	Oil & Grease	320	270	270
Laboratory report issue date:						26/02/2021	14/05/2021 & 27/05/2021	24/08/2021	

2021 Comments regarding quarterly groundwater monitoring outcomes	
Comment 1:	Arsenic result for Q1 sampled on 15/03/2021 due to 11/02/2021 result being reported by lab to a data resolution above trigger value
Comment 2:	
Comment 3:	
Comment 4:	
Comment 5:	
Comment 6:	