

APPENDIX E.7

Quarry Geochemistry Analytical Sampling Results

Table E.7.1: QMR2 Quarry - Geochemistry Summary Statistics Analytical Sampling Results - 2019

S(%) >0.2	FIZZ RATING	NP	MPA	MNP	RATIO (NP:MNP)	C (%)*	S (%)*
		t CaCO ₃ /1000t	t CaCO ₃ /1000t	t CaCO ₃ /1000t			
COUNT	3	3	3	3	3	7	7
MIN	1	21	7	10	1.8	<0.01	0.23
MAX	1	27	15	14	2.9	0.17	0.49
MEAN	1	22	12	12	1.8	0.08	0.34

S(%) <0.2	FIZZ RATING	NP	MPA	MNP	RATIO (NP:MNP)	C (%)*	S (%)*
		t CaCO ₃ /1000t	t CaCO ₃ /1000t	t CaCO ₃ /1000t			
COUNT	-	-	-	-	-	112	112
MIN	-	-	-	-	-	<0.01	<0.01
MAX	-	-	-	-	-	0.039	0.180
MEAN	-	-	-	-	-	0.050	0.040

Notes:

*Laboratory detection limit (LDL) = 0.01%; Non-detects are reported as half the LDL (0.005%).

Table E.7.2: QMR2 Quarry - Geochemistry - Analytical Sampling Results - 2019

YEAR	LOCATION	BLAST ID	HOLE ID	FIZZ RATING	NP (tCaCO3/1Kt)	MPA (tCaCO3/1Kt)	NNP (tCaCO3/1Kt)	RATIO (NP:MPA)	C (%)*	S (%)*	Y	X	Z	DEPTH	LITHOLOGY	CLASS
2019	QMR2	SQMR21225015	42010	-	-	-	-	-	<0.01	0.06	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	17008	-	-	-	-	-	0.01	0.06	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	21010	-	-	-	-	-	<0.01	0.02	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	11004	-	-	-	-	-	<0.01	0.02	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	10006	-	-	-	-	-	0.05	0.06	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	43015	-	-	-	-	-	<0.01	0.04	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	19006	-	-	-	-	-	<0.01	0.02	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	29004	-	-	-	-	-	<0.01	0.02	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	25006	-	-	-	-	-	<0.01	0.02	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21225015	2704	-	-	-	-	-	0.05	0.02	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	9024	-	-	-	-	-	0.02	0.03	7914342	560197	234	8.3	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	4027	-	-	-	-	-	0.02	0.02	7914358	560193	237	10.6	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	7014	-	-	-	-	-	0.04	0.02	7914352	560203	236	10.1	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	12002	-	-	-	-	-	0.15	0.04	7914332	560188	234	7.6	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	19003	-	-	-	-	-	0.08	0.01	7914317	560208	232	5.6	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	16005	-	-	-	-	-	0.01	0.04	7914325	560206	233	6.5	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	2018	-	-	-	-	-	0.01	0.02	7914404	560185	238	12.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	4023	-	-	-	-	-	0.03	0.04	7914356	560182	235	9.4	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	9030	-	-	-	-	-	0.01	0.02	7914382	560184	237	10.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	18005	-	-	-	-	-	0.03	0.01	7914320	560210	232	6.1	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	12006	-	-	-	-	-	0.01	0.02	7914334	560198	233	7.2	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	9027	-	-	-	-	-	0.02	0.02	7914344	560205	235	8.7	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	18002	-	-	-	-	-	0.01	0.02	7914318	560202	232	5.9	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	13003	-	-	-	-	-	0.01	0.04	7914330	560194	233	7.3	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	9034	-	-	-	-	-	0.06	0.05	7914378	560182	237	10.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	5022	-	-	-	-	-	0.02	0.03	7914324	560190	233	6.5	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	4038	-	-	-	-	-	0.02	0.02	7914394	560179	238	11.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	9031	-	-	-	-	-	0.28	0.09	7914382	560187	237	10.9	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	7011	-	-	-	-	-	0.04	0.04	7914350	560195	236	9.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	4034	-	-	-	-	-	0.02	0.03	7914398	560183	238	11.5	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	10011	-	-	-	-	-	0.03	0.02	7914341	560203	234	8.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	7009	-	-	-	-	-	0.03	0.01	7914349	560189	236	9.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	7016	-	-	-	-	-	0.02	0.01	7914386	560180	237	11.1	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	3009	-	-	-	-	-	0.01	0.03	7914362	560186	237	10.6	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	15006	-	-	-	-	-	0.02	0.01	7914328	560208	233	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	8020	-	-	-	-	-	0.02	0.03	7914316	560192	231	5.1	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	16001	-	-	-	-	-	0.01	0.05	7914322	560196	233	6.7	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	8012	-	-	-	-	-	0.03	0.02	7914349	560201	236	9.5	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	4044	-	-	-	-	-	0.04	0.04	7914397	560189	238	12.2	SERECITIC DIORITE	NAG
2019	QMR2	SQMR2001232	15003	-	-	-	-	-	0.04	0.03	7914326	560200	233	7.1	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	42010	-	-	-	-	-	<0.01	0.04	7914400	560049	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	17008	-	-	-	-	-	0.31	0.07	7914369	559980	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	21010	-	-	-	-	-	<0.01	0.05	7914370	559993	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	11004	-	-	-	-	-	<0.01	0.09	7914371	559959	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	10006	-	-	-	-	-	0.39	0.04	7914365	559959	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	43015	-	-	-	-	-	<0.01	0.01	7914388	560059	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	19006	-	-	-	-	-	0.03	0.07	7914377	559983	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	29004	-	-	-	-	-	<0.01	0.05	7914397	560006	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	25006	-	-	-	-	-	<0.01	0.04	7914386	559999	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	2704	-	-	-	-	-	<0.01	0.01	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	16006	-	-	-	-	-	0.1	0.02	7914373	559975	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	45016	-	-	-	-	-	<0.01	0.02	7914388	560066	223	7.0	SERECITIC DIORITE	NAG

Notes:

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Table E.7.2: QMR2 Quarry - Geochemistry - Analytical Sampling Results - 2019

YEAR	LOCATION	BLAST ID	HOLE ID	FIZZ RATING	NP (tCaCO3/1Kt)	MPA (tCaCO3/1Kt)	NNP (tCaCO3/1Kt)	RATIO (NP:MPA)	C (%)*	S (%)*	Y	X	Z	DEPTH	LITHOLOGY	CLASS
2019	QMR2	SQMR21217021	8008	-	-	-	-	-	<0.01	0.06	7914356	559957	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	18010	-	-	-	-	-	0.09	0.1	7914365	559986	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	20008	-	-	-	-	-	<0.01	0.03	7914374	559988	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	31006	-	-	-	-	-	<0.01	0.08	7914394	560014	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	7006	-	-	-	-	-	0.01	0.02	7914360	559951	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	2701	-	-	-	-	-	<0.01	0.01	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	45010	-	-	-	-	-	<0.01	0.03	7914404	560057	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	13002	-	-	-	-	-	<0.01	0.03	7914379	559961	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	23008	-	-	-	-	-	0.01	0.17	7914378	559996	223	7.0	BIOTITE SCHIST	NAG
2019	QMR2	SQMR21217021	49012	-	-	-	-	-	<0.01	0.02	7914404	560071	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	2508	-	-	-	-	-	<0.01	0.03	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	34006	-	-	-	-	-	<0.01	0.05	7914399	560022	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	46012	-	-	-	-	-	<0.01	0.02	7914400	560063	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	44018	-	-	-	-	-	0.14	0.03	7914382	560066	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	17021	-	-	-	-	-	0.11	0.03	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	40012	-	-	-	-	-	<0.01	0.04	7914392	560047	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	14004	-	-	-	-	-	0.03	0.04	7914376	559967	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	52004	-	-	-	-	-	<0.01	0.01	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	2707	-	-	-	-	-	<0.01	<0.01	-	-	-	-	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	20014	-	-	-	-	-	<0.01	0.04	7914358	559997	223	7.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	12016	-	-	-	-	-	0.17	0.35	7914341	559979	219	2.8	BIOTITE SCHIST	PAG
2019	QMR2	SQMR21217021	36010	-	-	-	-	-	<0.01	0.06	7914391	560033	224	8.2	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	11008	-	-	-	-	-	0.02	0.02	7914361	559965	221	5.2	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	18016	-	-	-	-	-	<0.01	0.01	7914331	560017	215	-1.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	42016	-	-	-	-	-	<0.01	0.02	7914347	560234	223	10.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	11008	-	-	-	-	-	0.01	0.02	7914361	559965	221	5.2	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	37006	-	-	-	-	-	<0.01	0.02	7914403	560030	224	8.1	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	33010	-	-	-	-	-	<0.01	0.03	7914387	560025	224	7.6	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	26004	-	-	-	-	-	0.02	0.03	7914393	559998	224	8.1	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	32012	-	-	-	-	-	<0.01	0.01	7914380	560026	223	7.2	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	20012	-	-	-	-	-	<0.01	0.08	7914363	559994	224	7.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	21010	-	-	-	-	-	<0.01	0.15	7914370	559993	223	7.3	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	43012	-	-	-	-	-	0.03	0.17	7914395	560055	224	7.9	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	46012	-	-	-	-	-	<0.01	0.01	7914400	560063	224	8.2	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	14008	-	-	-	-	-	<0.01	0.01	7914365	559972	222	5.9	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	26008	-	-	-	-	-	<0.01	0.04	7914382	560004	224	7.9	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	33014	-	-	-	-	-	<0.01	0.03	7914343	560207	223	10.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	20004	-	-	-	-	-	0.06	0.35	7914384	559983	224	8.0	BIOTITE SCHIST	PAG
2019	QMR2	SQMR21217021	14014	-	-	-	-	-	<0.01	0.32	7914349	559981	220	3.6	BIOTITE SCHIST	PAG
2019	QMR2	SQMR21217021	38010	-	-	-	-	-	<0.01	0.02	7914394	560038	224	8.2	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	28006	-	-	-	-	-	<0.01	0.06	7914390	560006	224	7.6	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	32008	-	-	-	-	-	<0.01	0.03	7914391	560020	224	7.7	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	41008	-	-	-	-	-	<0.01	0.01	7914403	560044	224	8.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	32004	-	-	-	-	-	<0.01	0.03	7914401	560014	224	7.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	13006	-	-	-	-	-	0.01	0.02	7914369	559967	223	7.3	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	15016	-	-	-	-	-	<0.01	0.01	7914345	559986	220	4.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	29012	-	-	-	-	-	<0.01	0.04	7914376	560017	224	7.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	37012	-	-	-	-	-	<0.01	0.04	7914388	560039	224	7.8	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	40014	-	-	-	-	-	0.07	0.25	7914349	560227	223	10.0	BIOTITE SCHIST	PAG
2019	QMR2	SQMR21217021	24010	-	-	-	-	-	0.01	0.18	7914374	560002	224	7.6	BIOTITE SCHIST	NAG
2019	QMR2	SQMR21217021	32008	-	-	-	-	-	<0.01	0.02	7914391	560020	224	7.7	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	40008	-	-	-	-	-	<0.01	0.02	7914402	560040	224	8.0	SERECITIC DIORITE	NAG

Notes:

*Laboratory detection limit (LDL) = 0.01%; Non-detects are reported as half the LDL (0.005%).

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YEAR	LOCATION	BLAST ID	HOLE ID	FIZZ RATING	NP (tCaCO3/1Kt)	MPA (tCaCO3/1Kt)	NNP (tCaCO3/1Kt)	RATIO (NP:MPA)	C (%)*	S (%)*	Y	X	Z	DEPTH	LITHOLOGY	CLASS
2019	QMR2	SQMR21217021	16002	-	-	-	-	-	0.01	0.01	7914384	559969	224	8.1	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	29006	-	-	-	-	-	<0.01	0.04	7914392	560009	223	7.3	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	23004	-	-	-	-	-	0.01	0.07	7914388	559991	224	7.9	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	30010	-	-	-	-	-	<0.01	0.04	7914382	560018	224	8.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	17014	-	-	-	-	-	<0.01	0.04	7914353	559989	222	6.0	SERECITIC DIORITE	NAG
2019	QMR2	SQMR21217021	13002	-	-	-	-	-	<0.01	0.04	7914379	559961	224	7.8	SERECITIC DIORITE	NAG
2019	QMR2	QMR21210021	14026	1	27	15.3	12	1.76	0.08	0.49	7914328	559985	215	5.2	BIOTITE SCHIST	PAG
2019	QMR2	QMR21210021	11022	1	22	12.2	10	1.81	0.07	0.39	7914342	559991	216	6.3	BIOTITE SCHIST	PAG
2019	QMR2	QMR21210021	9028	-	-	-	-	-	<0.01	0.01	7914338	559973	216	6.1	SERECITIC DIORITE	NAG
2019	QMR2	QMR21210021	9020	1	21	7.2	14	2.92	0.02	0.23	7914350	559994	216	5.7	BIOTITE SCHIST	PAG
2019	QMR2	QMR21210021	11018	-	-	-	-	-	<0.01	0.09	7914347	560002	216	6.0	SERECITIC DIORITE	NAG
2019	QMR2	QMR21210021	17030	-	-	-	-	-	<0.01	0.03	7914315	559979	215	4.8	SERECITIC DIORITE	NAG
2019	QMR2	QMR21210021	9024	-	-	-	-	-	0.02	0.16	7914344	559983	216	5.6	BIOTITE SCHIST	NAG
2019	QMR2	QMR21210021	14030	-	-	-	-	-	<0.01	0.02	7914322	559974	216	6.3	SERECITIC DIORITE	NAG
2019	QMR2	QMR21210021	7027	-	-	-	-	-	<0.01	<0.01	7914319	559987	214	4.1	SERECITIC DIORITE	NAG

Notes:
*Laboratory detection limit (LDL) = 0.01%; Non-detects are reported as half the LDL (0.005%).

Table E.7.3: Q1 Quarry - Geochemistry Summary Statistics - Analytical Sampling Results - 2019

S(%) >0.2	FIZZ RATING	NP	MPA	MNP	RATIO (NP:MNP)	C (%)*	S (%)*
		t CaCO ₃ /1000t	t CaCO ₃ /1000t	t CaCO ₃ /1000t			
COUNT	1	1	1	1	1	476	476
MIN	1	9	10	-1	1	0.010	0.010
MAX	1	9	10	-1	1	1.990	0.330
MEAN	1	9	10	-1	1	0.040	0.010

Notes:

*Laboratory detection limit (LDL) = 0.01%; Non-detects are reported as half the LDL (0.005%).