

Operator Water Consumption

The following table presents water consumption and water use intensity for a majority of our revenue-generating mineral properties, as available from Skarn Associates for calendar years 2018 through 2023. The table also provides the water consumption that can be attributed to our streams and royalties and the average water intensity for our portfolio. We have estimates of consumption and water use intensity associated with about 98% of our net GEOs in each of the six years presented. Entries labeled “NR” means the data were not reported in the Skarn Associates database, and those labeled “–” are for periods when Royal Gold did not have royalty or stream revenue from the mineral property. Skarn Associates may update prior year information, which we may have presented in prior reports. We use the most current data available from Skarn Associates and adjust our presentation of data and calculations accordingly.

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity		Quartile Ranking ⁸
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)	
Principal Properties									
Andacollo Teck Resources Limited	2018	15.3%	9,306	1,265	32	0.43			
	2019	17.2%	8,770	1,734	38	0.52			
	2020	13.4%	9,032	1,309	37	0.46			
	2021	11.4%	8,896	1,518	47	0.48			
	2022	8.4%	9,242	1,266	57	0.54			
	2023	8.4%	8,732	1,192	55	0.54	4th		2nd
Cortez ³ Nevada Gold Mines LLC	2018	1.5%	3,230	10	3	0.19			
	2019	4.3%	4,185	50	4	0.19			
	2020	6.1%	4,022	82	5	0.19			
	2021	11.0%	4,965	212	7	0.17			
	2022	10.6%	3,104	100	4	0.21			
	2023	18.8%	5,375	293	6	0.21	1st		1st
Mount Milligan Centerra Gold Inc.	2018	22.6%	6,252	1,310	22	0.46			
	2019	23.3%	6,697	1,339	21	0.41			
	2020	24.8%	7,333	1,571	24	0.37			
	2021	23.5%	8,023	1,638	25	0.38			
	2022	27.0%	10,427	2,346	33	0.49			
	2023	23.5%	8,833	2,030	33	0.41	4th		1st

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
Pueblo Viejo Barrick Gold Corporation	2018	16.8%	14,440	610	14	1.73		
	2019	17.3%	14,890	660	14	1.73		
	2020	16.9%	15,273	720	16	1.73		
	2021	14.1%	17,127	795	20	1.88		
	2022	12.4%	18,802	807	24	1.99		
	2023	10.6%	19,817	917	33	2.23	4th	4th
Non-Principal Properties								
Allan/Borax Nutrien Ltd.	2018	0.3%	NR	NR	NR	NR		
	2019	0.3%	NR	NR	NR	NR		
	2020	0.3%	NR	NR	NR	NR		
	2021	0.3%	NR	NR	NR	NR		
	2022	0.3%	NR	NR	NR	NR		
	2023	0.3%	NR	NR	NR	NR	NR	NR
Bald Mountain ³ Kinross Gold Corporation	2018	0.5%	1,419	7	5	0.06		
	2019	0.2%	824	3	4	0.05		
	2020	0.0%	1,281	1	7	0.07		
	2021	0.2%	1,771	4	9	0.09		
	2022	0.4%	2,317	11	11	0.15		
	2023	0.3%	3,224	18	20	0.19	3rd	1st
Bogoso and Prestea Future Global Resources Ltd.	2018	2.6%	1,226	111	16	0.94		
	2019	1.4%	1,700	138	36	2.36		
	2020	0.9%	589	45	20	2.00		
	2021	0.4%	656	23	20	2.00		
	2022	0.6%	739	31	21	2.00		
	2023	0.5%	612	25	21	2.00	4th	4th

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
Canadian Malartic ³ Agnico Eagle Mines Ltd.	2018	2.5%	11,882	109	17	0.58		
	2019	1.8%	9,858	70	15	0.47		
	2020	1.6%	8,039	62	14	0.39		
	2021	1.5%	11,795	68	16	0.53		
	2022	1.0%	14,836	58	22	0.76		
	2023	0.3%	16,588	18	24	0.84	4th	3rd
Dolores Pan American Silver Corporation	2018	2.0%	924	27	5	0.13		
	2019	1.9%	1,328	38	7	0.20		
	2020	1.5%	1,340	38	9	0.21		
	2021	2.0%	1,667	51	9	0.21		
	2022	1.9%	1,916	60	12	0.24		
	2023	1.6%	2,173	67	16	0.29	3rd	1st
Don Mario Orvana Minerals Corporation	2018	0.5%	NR	NR	NR	NR		
	2019	0.2%	NR	NR	NR	NR		
	2020	—%	—	—	—	—		
	2021	—%	—	—	—	—		
	2022	—%	—	—	—	—		
	2023	—%	—	—	—	—	—	—
Don Nicolas ³ Cerrado Gold, Inc.	2018	0.0%	115	1	5	0.40		
	2019	—%	—	—	—	—		
	2020	0.4%	133	9	8	0.40		
	2021	0.2%	166	2	4	0.40		
	2022	0.2%	158	2	3	0.40		
	2023	0.1%	203	1	3	0.40	1st	1st

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
El Limón Calibre Mining Corporation	2018	0.6%	896	28	18	2.00		
	2019	0.6%	964	27	15	2.00		
	2020	0.9%	1,084	39	17	2.53		
	2021	1.0%	1,180	47	17	2.38		
	2022	1.2%	986	40	13	1.99		
	2023	1.1%	918	35	13	1.81	3rd	4th
Gold Hill ³ Kinross Gold Corporation (Round Mountain Complex)	2018	0.3%	6,688	11	17	0.27		
	2019	0.2%	6,709	8	18	0.26		
	2020	0.2%	5,994	10	18	0.25		
	2021	0.2%	4,322	7	17	0.26		
	2022	0.2%	6,939	13	31	0.26		
	2023	0.0%	7,579	4	30	0.27	4th	1st
Goldstrike ³ Nevada Gold Mines LLC (Goldstrike and Carlin were combined by Nevada Gold Mines for reporting purposes starting in 2019 and are referred to as Carlin.)	2018	1.0%	20,494	52	20	2.45		
	2019	0.9%	8,985	13	5	0.56		
	2020	0.7%	11,104	13	7	0.56		
	2021	0.6%	13,934	16	9	0.60		
	2022	0.7%	11,157	12	7	0.57		
	2023	0.3%	6,725	4	5	0.57	1st	2nd
Gwalia ³ Genesis Minerals Limited	2018	1.5%	1,118	17	4	1.66		
	2019	1.0%	1,086	16	6	1.65		
	2020	0.9%	1,027	15	7	1.47		
	2021	0.9%	1,062	15	6	1.06		
	2022	0.8%	1,230	17	8	1.23		
	2023	0.7%	1,400	15	8	1.40	2nd	4th

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
Holt³ Agnico Eagle Mines Ltd.	2018	3.1%	370	23	3	0.43		
	2019	2.7%	367	23	3	0.43		
	2020	1.3%	93	11	3	0.43		
	2021	—%	—	—	—	—		
	2022	—%	—	—	—	—		
	2023	—%	—	—	—	—	—	—
Khoemacau MMG Limited (formally Khoemacau Copper)	2018	—%	—	—	—	—		
	2019	—%	—	—	—	—		
	2020	—%	—	—	—	—		
	2021	0.7%	1,440	24	12	0.80		
	2022	3.1%	2,700	98	12	0.75		
	2023	5.4%	2,379	158	11	0.73	3rd	3rd
King of the Hills Vault Minerals Limited	2018	—%	—	—	—	—		
	2019	0.4%	NR	NR	NR	NR		
	2020	0.2%	NR	NR	NR	NR		
	2021	0.0%	NR	NR	NR	NR		
	2022	0.2%	1,773	13	25	0.75		
	2023	0.8%	2,186	22	10	0.46	3rd	2nd
LaRonde Zone 5³ Agnico Eagle Mines Ltd.	2018	0.1%	1,633	1	4	0.70		
	2019	0.5%	2,049	6	5	0.70		
	2020	0.4%	1,872	6	5	0.70		
	2021	0.4%	2,072	6	5	0.70		
	2022	0.6%	1,917	8	5	0.68		
	2023	0.5%	1,632	6	5	0.61	1st	2nd

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
Las Cruces First Quantum Minerals Ltd.	2018	1.4%	1,235	19	5	0.80		
	2019	0.9%	1,059	16	6	0.78		
	2020	1.1%	1,249	19	7	0.85		
	2021	0.3%	683	11	14	1.00		
	2022	0.2%	607	9	18	1.00		
	2023	0.1%	1,082	17	79	1.67	4th	4th
Leeville (North) ³ Nevada Gold Mines LLC	2018	0.8%	10,324	22	11	0.51		
	2019	0.3%	8,985	4	5	0.56		
	2020	0.3%	11,104	6	7	0.56		
	2021	1.0%	13,934	27	9	0.60		
	2022	0.9%	11,157	16	7	0.57		
	2023	1.1%	6,725	14	5	0.57	1st	2nd
Marigold ³ SSR Mining Inc.	2018	1.6%	1,628	32	8	0.06		
	2019	1.5%	1,624	30	7	0.06		
	2020	1.7%	1,611	32	7	0.07		
	2021	1.6%	1,645	33	7	0.08		
	2022	1.3%	1,564	23	7	0.07		
	2023	1.0%	1,694	17	7	0.08	2nd	1st
Meekathara ³ Westgold Resources Ltd.	2018	0.7%	NR	NR	NR	NR		
	2019	0.7%	NR	NR	NR	NR		
	2020	0.8%	1,397	16	8	0.50		
	2021	0.7%	1,165	12	6	0.39		
	2022	0.6%	1,294	11	6	0.47		
	2023	0.4%	1,982	12	11	0.90	3rd	3rd

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
Mulatos Alamos Gold Inc.	2018	3.0%	1,169	52	7	0.17		
	2019	0.8%	989	15	7	0.14		
	2020	—%	—	—	—	—		
	2021	—%	—	—	—	—		
	2022	—%	—	—	—	—		
	2023	—%	—	—	—	—	—	—
Peñasquito Newmont Corporation	2018	5.1%	65,914	1,182	90	1.87		
	2019	4.1%	37,333	615	57	1.87		
	2020	7.1%	43,103	625	33	1.41		
	2021	8.2%	48,222	745	32	1.35		
	2022	7.6%	30,180	447	22	0.84		
	2023	3.4%	18,765	277	32	0.90	4th	3rd
Rainy River New Gold Inc.	2018	3.7%	4,767	196	21	0.73		
	2019	5.5%	2,482	142	10	0.31		
	2020	4.7%	2,399	130	10	0.27		
	2021	5.2%	1,696	103	7	0.18		
	2022	5.0%	4,657	261	20	0.54		
	2023	5.8%	6,024	350	23	0.69	4th	3rd
Red Chris Newmont Corporation	2018	—%	—	—	—	—		
	2019	—%	—	—	—	—		
	2020	—%	—	—	—	—		
	2021	—%	—	—	—	—		
	2022	0.5%	21,908	168	128	2.32		
	2023	0.6%	19,920	220	149	2.15	4th	4th

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
Robinson KGHM International Ltd.	2018	2.0%	18,959	451	87	1.34		
	2019	1.9%	19,409	427	84	1.37		
	2020	2.2%	19,170	587	98	1.37		
	2021	1.8%	19,081	405	78	1.36		
	2022	1.9%	19,040	459	91	1.36		
	2023	1.5%	13,600	404	106	1.36	4th	4th
Skyline Wolverine Fuels, LLC	2018	0.3%	NR	NR	NR	NR		
	2019	0.3%	NR	NR	NR	NR		
	2020	0.3%	NR	NR	NR	NR		
	2021	0.1%	NR	NR	NR	NR		
	2022	0.0%	NR	NR	NR	NR		
	2023	0.3%	NR	NR	NR	NR	NR	NR
South Laverton ³ Northern Star Resources Ltd.	2018	1.3%	1,776	34	10	0.80		
	2019	1.1%	1,751	27	9	0.74		
	2020	2.2%	1,791	50	8	0.67		
	2021	1.9%	1,962	42	8	0.53		
	2022	1.3%	2,142	38	11	0.58		
	2023	1.4%	3,619	54	15	0.95	3rd	4th
Southern Cross Shandong Tianye Group	2018	0.4%	1,172	8	7	0.50		
	2019	0.4%	1,172	8	7	0.50		
	2020	0.3%	1,172	6	7	0.50		
	2021	0.3%	1,172	7	7	0.50		
	2022	0.3%	1,172	5	7	0.50		
	2023	0.3%	1,172	6	7	0.50	2nd	2nd

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
Taparko ³ (historic royalty, no ownership today)	2018	0.8%	1,609	32	16	0.82		
	2019	0.4%	1,491	22	22	0.78		
	2020	0.6%	1,684	30	18	0.94		
	2021	0.5%	1,844	37	27	1.13		
	2022	0.1%	445	6	26	1.13		
	2023	—%	—	—	—	—	—	—
Twin Creeks ³ Nevada Gold Mines LLC (Twin Creeks combined production with Turquoise Ridge in 2019.)	2018	0.0%	1,569	—	4	0.71		
	2019	0.1%	2,870	1	4	0.49		
	2020	0.1%	4,065	2	7	0.69		
	2021	0.0%	6,017	—	11	0.98		
	2022	0.0%	1,211	—	3	0.68		
	2023	0.0%	6,676	—	13	1.57	3rd	4th
Voisey's Bay Vale S.A.	2018	1.8%	5,280	59	13	2.64		
	2019	2.0%	5,280	72	14	2.50		
	2020	1.5%	5,280	56	14	2.93		
	2021	2.6%	5,280	98	13	2.56		
	2022	1.5%	2,583	42	10	1.55		
	2023	0.8%	4,540	65	31	2.58	4th	4th
Wassa Chifeng Jilong Gold Mining Co., Ltd.	2018	4.6%	1,718	137	11	1.07		
	2019	4.4%	1,985	151	13	1.28		
	2020	5.0%	1,931	155	12	0.96		
	2021	4.9%	1,859	168	12	1.10		
	2022	5.2%	2,082	167	12	1.10		
	2023	5.2%	2,805	164	12	1.10	3rd	4th

Mineral Property/Operator	Year ¹	Royal Gold Net GEOs ² (%)	Validated Water Consumption ⁴ (ML)	Royal Gold Attributed Water Consumption ⁵	Water Consumption Intensity (Validated)		Water Consumption Intensity Quartile Ranking ⁸	
				(ML)	(kL/GEO)	(kL/t Ore Treated)	(kL/GEO)	(kL/t Ore Treated)
Wharf Coeur Mining, Inc.	2018	0.6%	893	16	11	0.20		
	2019	0.6%	837	17	10	0.20		
	2020	0.7%	855	17	9	0.20		
	2021	0.6%	854	17	9	0.20		
	2022	0.5%	818	14	10	0.20		
	2023	0.7%	607	12	6	0.14	1st	1st
Williams ⁷ Barrick Gold Corporation	2018	0.5%	1,646	13	10	0.54		
	2019	0.6%	1,662	13	8	0.57		
	2020	0.7%	2,917	23	13	1.46		
	2021	0.4%	1,138	10	8	0.92		
	2022	0.2%	1,062	4	8	0.90		
	2023	(0.2)%	1,101	(4)	8	0.87	2nd	3rd
Xavantina Ero Copper	2018	—%	—	—	—	—		
	2019	—%	—	—	—	—		
	2020	—%	—	—	—	—		
	2021	1.2%	69	6	2	0.40		
	2022	3.1%	76	14	2	0.40		
	2023	4.1%	54	10	1	0.40	1st	1st
Other Interests	2018	0.2%	NR	NR	NR	NR		
	2019	0.2%	NR	NR	NR	NR		
	2020	0.1%	NR	NR	NR	NR		
	2021	0.2%	NR	NR	NR	NR		
	2022	0.2%	NR	NR	NR	NR		
	2023	0.3%	NR	NR	NR	NR	NR	NR

Portfolio Water Consumption Intensity Summary

Year ¹	Royal Gold Net GEOs ² (%)	Royal Gold Attributed Consumption ⁵		Consumption Intensity (Validated)		Industry Quartile Ranking ⁸	
		(ML)	(kL/GEO)	(kL/t ore treated)	(kL/GEO)	(kL/t Ore Treated)	
Properties With Water Consumption Estimates							
2018	98.0%	5,838	23	0.62			
2019	97.9%	5,683	22	0.57			
2020	99.1%	5,685	21	0.53			
2021	99.4%	6,146	22	0.51			
2022	99.4%	6,566	25	0.60			
2023	99.2%	6,423	25	0.56	4th	2nd	
Properties Without Water Consumption Data ⁶							
2018	2.0%	119					
2019	2.1%	120					
2020	0.9%	52					
2021	0.6%	34					
2022	0.6%	37					
2023	0.8%	53					
Total							
2018	100.0%	5,957	23	0.62			
2019	100.0%	5,803	22	0.57			
2020	100.0%	5,737	21	0.53			
2021	100.0%	6,180	22	0.51			
2022	100.0%	6,603	25	0.60			
2023	100.0%	6,476	25	0.56			

1 The Company changed its fiscal year end from June 30 to December 31, effective as of December 31, 2021. Accordingly, certain amounts in this table have been adjusted to reflect unaudited calendar year information.

2 GEO production is estimated by multiplying the number of net metal or commodity units of which we take delivery, multiplied by the following standard set of commodity prices and divided by the stated gold price, with the same metal prices used for each year for comparative purposes: \$1,758/oz Au; \$20.54/oz Ag; \$6,185.82/t Cu; \$1,826.14/lb Pb; \$2,268.85/t Zn; \$13,672/t Ni; \$25,992/t Mo; \$31,161/t Co (see page 138 for complete definition).

3 Royal Gold's interest is either a portion of the mineral properties or part of a complex, and water usage is assumed to be equally proportioned to all GEOs.

4 Mine site water consumption estimates were compiled by Skarn Associates, and we have relied on its database for emissions presented for gold and copper mining operations.

5 Royal Gold's attributed water consumption = Site consumption x Royal Gold % of site production.

6 Water consumption for mineral properties that were not included in the Skarn Associates database have been assumed to be equal to the average of the portfolio.

7 Prior year production adjustments occurred in 2023, resulting in negative production.

8 Industry quartile ranking is based both on Skarn Associates' water consumption intensity curves for gold production.