

GRI DATA TABLES

102-8 Information on employees and other workers

	Admin	Geology	Engineering	Labour	Total Employees	Contractors	Total Employees and Contractors
Corporate Office	33	5	9	-	47	1	48
Peru							
Offices	49	-	-	-	49	-	49
Exploration	-	16	-	-	16	-	16
Huaron	65	34	6	803	908	732	1640
Morococha	89	46	66	662	863	441	1,304
Pico Machay	3	0	0	0	3	0	3
Total Peru	206	96	72	1,465	1,839	1,173	3,012
Mexico							
Durango Office	34	1	3	5	43	-	43
Chihuahua Office	1	1	3	1	6	-	6
Exploration	1	4	1	8	14	-	14
Alamo Dorado	-	-	1	-	1	-	1
La Colorada	30	6	92	756	884	115	999
Dolores	53	9	118	445	625	813	1,438
PASC Projects	24	3	19	-	46	278	324
Total Mexico	143	24	237	1,215	1,619	1,206	2,825
Bolivia							
Offices	26	-	3	-	29	1	30
Exploration	-	1	-	-	1	-	1
San Vicente	76	7	49	286	418	173	591
Total Bolivia	102	8	52	286	448	174	622
Argentina							
Offices	25	-	-	-	25	3	28
Exploration	-	-	-	-	-	-	-
Manantial Espejo	72	5	73	304	454	75	529
Navidad	11	-	-	19	30	3	33
Cose	9	-	8	22	39	10	49
Joaquin	9	1	6	17	33	35	68
Calcatreu	-	-	-	-	-	-	-
Total Argentina	126	6	87	362	581	126	707
Total	610	139	457	3,328	4,534	2,680	7,214

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External initiatives
Memberships or associations

Canada and USA

- Mining Association of Canada
- Women in Mining
- Women Who Rock
- The Silver Institute
- Prospectors and Developers Association of Canada (PDAC)
- Northwest Mining Association
- Engineers Without Borders
- UNICEF Canada

Peru

- Patronato Plata del Peru
- Senati
- Sociedad de Minería, Petróleo y Energía
- EITI Peru

Mexico

- Cámara Minera de México (CAMIMEX)

Argentina

- Cámara Argentina de Empresas Mineras (CAEM)
- CADIM (Colegio Argentino de Ingenieros en Mineras)
- OLAMI (Organismo Latinoamericano de Minería)
- CEADS (Consejo Empresario Argentino para el Desarrollo Sostenible)
- Green Cross
- Fundación IAN (diversity and inclusion)
- Fundación LOGRAR (local development)
- Fundación Agencia de Desarrollo de Gobernador Gregores

Bolivia

- Association of Camelid Producers in San Vicente

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Collective bargaining agreements

	Dolores	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Employees that belong to a union or association	445	756	800	426	323	336	3,086
% of total employees	31.0%	75.7%	48.8%	32.7%	54.7%	52.0%	68.0%

TOPIC SPECIFIC GRI STANDARDS

Economic

Economic Performance

201-1

Direct economic value generated and distributed

Corporate Giving Committee Donations	(\$ CAD)		
PAS Scholarships	\$8,000	Minerva Foundation	\$20,525
Van Intl Children's Festival	\$10,000	Global Change for Children Society	\$262
Women in Mining BC	\$270	Vancouver Island Compassion Dogs	\$10,000
Paws for Hope	\$5,000	Canadian Red cross	\$5,000
Vancouver Food Bank	\$5,000	Crisis Intervention & Suicide Prevention Centre of BC	\$5,000
Laurentian University	\$10,000	411 Senior's Centre	\$20,000
Hockey Helps the Homeless	\$10,000	BC Women's Hospital	\$160
Growing Chefs	\$5,000	UBC Scholarships	\$5,000
DTES Women's Centre	\$10,000	Power To Be	\$1,000
Vancouver Symphony Orchestra	\$6,048	Women Who Rock	\$3,250
Covenant House	\$20,000	Canadian Diabetes Association	\$5,000
		Total	\$164,515

	Dolores	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo	Total
CSR and Community Infrastructure Investment ⁽¹⁾	\$3,653,227	\$94,409	\$992,261	\$648,364	\$842,659	\$1,064,655	\$7,295,576

(1) Amounts capture entire CSR budget for pro bono sustainable development programs and community infrastructure and services investments.

Procurement Practices

204-1 Proportion of Spending on Local Suppliers

	Dolores	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Spend for goods and services (\$'000)	202.6	65.9	77.5	57.7	56.3	28.2	488.8
Portion spent on local and regional suppliers ⁽¹⁾	42%	18%	23%	91%	95%	18%	46%

(1) Local and regional suppliers include those located in local communities or municipalities near our mines, and those located in the provinces, states, or departments in which our mines are located.

Environment

Energy

302-1 Energy consumption within the organization

	Dolores	Alamo Dorado	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo
Diesel (m3)	30,392	620	2,581	3,289	3,676	1,058	16,532
Gasoline (m3)	1,073	80	212	-	-	102	-
Carbon (tonnes)	-	-	-	6	-	3	-
Liquified Petroleum Gas, LPG (m3)	77	-	329	116	168	-	-
Ammonium Nitrate, ANFO (tonnes)	8,426	-	821	451	909	674	-
Emulsion (tonnes)	202	-	525	572	11	56	1
Electricity (MWh)	91,816	638	66,869	70,314	74,833	23,899	-

(GJ)	Dolores	Alamo Dorado	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo
Diesel	1,175,569	23,974	99,820	127,204	142,185	40,904	639,456
Gasoline	37,205	2,773	7,348	-	-	3,529	-
Carbon	-	-	-	168	9	83	-
Liquified Petroleum Gas, LPG	1,976	-	8,407	2,962	4,299	-	-
Ammonium Nitrate, ANFO	19,379	-	1,888	1,037	2,090	1,551	-
Emulsion	465	-	1,208	1,315	26	130	2
Electricity	330,539	2,297	240,727	253,129	269,398	86,036	-
Total	1,565,134	29,044	359,399	385,815	418,006	132,232	639,458

(GJ)	2018	2017	2016
Diesel	2,249,112	2,437,184	2,548,581
Gasoline	50,855	64,578	62,949
Carbon	260	216	259
Liquified Petroleum Gas, LPG	17,643	36,736	70,467
Ammonium Nitrate, ANFO	25,945	1,921	4,837
Emulsion	3,146	25,348	24,797
Electricity	1,182,125	1,098,741	1,037,399
Total	3,529,087	3,664,725	3,749,290

(1) The measurement methodology to collect the information is inventory control.

(2) PAAS used TSM - Energy and Greenhouse Gas Emissions Management Guide 2014, Orica and conversion tools to transform the units to GJ.

Water

303-3 Water withdrawal

	Dolores	Alamo Dorado	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Total water withdrawal⁽¹⁾								
Mine dewatering (m ³)	-	-	4,232,942	16,554,785	21,318,336	367,920	1,267,630	43,741,613
Ground water (m ³) ⁽²⁾	-	182,243	-	-	-	-	-	182,243
Surface water (m ³) ⁽³⁾	-	-	-	6,307,200	10,113,977	56,380	-	16,477,557
Water withdrawal from areas with water stress⁽⁴⁾								
Mine dewatering (m ³)	1,254,330	-	-	-	-	-	-	1,254,330
Ground water (m ³) ⁽²⁾	409,307	-	-	-	-	-	-	409,307
Surface water (m ³) ⁽³⁾	651,109	-	-	-	-	-	-	651,109
Total water withdrawal								
New water for mineral processing ⁽⁴⁾	345,716		209,378	3,903,225	2,487,585	118,950	250,390	7,315,244

	Dolores	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Recycled Process Water (m ³)	10,978,350	943,379	188,340	473,820	721,752	2,762,738	16,068,379
% Recycled Process Water ⁽⁵⁾	97%	82%	5%	16%	86%	92%	69%

(1) The measurement methodology may vary across the sites. Each site follows local regulations to ensure water withdraw within the limits allowed.

(2) Groundwater includes water from wells withdrawing water.

(3) Surface water includes water from precipitation and natural lagoons.

(4) All new water is Freshwater ≤ 1000 mg/L total dissolved solids.

(5) The percentage of recycling water is calculated by the total recycled water divided by the total water used in mineral processing.

303-4 Water discharge

(m ³)	Dolores	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Discharge to Surface Water	1,254,329.56	4,023,564	22,861,985	10,113,978	305,351	-	38,559,207
Discharge to Groundwater	136,236.00	-	-	-	-	-	136,236
Discharge to treatment plant or lagoons	-	-	-	-	-	523,006	523,006
Third-party water	-	-	-	21,318,336	-	-	21,318,336

(1) The treatment and volume measurement may vary across the sites, depending on local regulations. Each site uses the most appropriate methodology to conduct analysis and ensure compliance with local regulations.

Biodiversity

MM1 Amount of land (owned or leased, and managed for productive activities of extractive use) disturbed or rehabilitated

	Dolores	Alamo Dorado	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Disturbed hectares	721	-	187	301	64	63	436	1,771
Reclaimed hectares	10	50	1	0.8	0.05	0.4	26	89

	2018	2017	2016
Disturbed hectares	1,771	1,753	1,660
Reclaimed hectares	89	117	161

Emissions

305-1 Direct Greenhouse Gas (GHG) emissions

305-2 Energy indirect (Scope 2) GHG emissions

	Dolores	Alamo Dorado	La Col- orada	Huaron	Moro- cocha	San Vicente	Manantial Espejo
Direct (Scope 1) GHG Emissions ⁽¹⁾	Diesel	82,330	1,679	6,991	8,909	9,958	44,784
	Gasoline	2,668	199	527	-	-	-
	Carbon	-	-	-	14	1	7
	Liquified Petroleum Gas, LPG	120	-	510	180	261	-
	Ammonium Nitrate, ANFO	1,592	-	155	85	172	-
	Emulsion (tonnes)	38	-	99	108	2	11
Energy Indirect (Scope 2) GHG Emissions ⁽²⁾	MWh	41,634	289	30,321	20,079	21,369	10,188
Total	128,383	2,167	38,603	29,375	31,762	13,450	44,784

(1) Pan American Silver used National Inventory Report Canada 2018 to calculate Direct (Scope 1) GHG emissions. The global warming potential (GWP) is based on the information provided by the Government of Canada. Gasses included in this calculation are CO₂, CH₄ and N₂O.

(2) The GHG Protocol - purchased tool 2014 for energy indirect (Scope 2) GHG emissions. Gasses included in this calculation are CO₂, CH₄ and N₂O.

	2018	2017	
Direct (Scope 1) GHG Emissions	Diesel	157,516	170,920
	Gasoline	3,647	4,476
	Carbon	22	18
	Liquified Petroleum Gas, LPG	1,070	2,187
	Ammonium Nitrate, ANFO	2,132	2,083
	Emulsion (tonnes)	259	158
Energy Indirect (Scope 2) GHG Emissions	MWh	123,880	113,971
Total	288,525	293,813	

Effluents & Waste

306-2 Waste by type and disposal method

(tonnes)	Reuse	Recycled	Compost	Landfill (Non-Hazardous Waste)	Secured Landfill	Other
Hazardous or dangerous waste	291	-	-	-	999	-
Non-hazardous inert waste	2	86	-	925	-	-
Domestic waste to landfill	-	-	5	1,712	-	-
Recyclable	27	4,087	-	-	-	13 ⁽¹⁾

(1) Paper, plastic and aluminum cans donated to local NGO to be recycled.

(tonnes)	2018	2017	2016
Hazardous or dangerous waste	999	1,023	1,422
Non-hazardous inert waste	925	1,288	1,360
Domestic waste to landfill	1,712	1,169	1,212
Reuse	320	608	560
Recycling	4,190	1,770	1,737

306-3 Significant spills

	Dolores	Alamo Dorado	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo
Number of significant spills	-	-	-	-	-	1 ⁽¹⁾	-
Volume of liquid or material (m ³)	-	-	-	-	-	10	-

(1) Spill was dry silver concentrate caused by a traffic accident. Spill was immediately cleaned up with no residual impact.

G4 MM3 Total amounts of over burden, rock, tailings, and sludges

	Dolores	Alamo Dorado	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo
Tailings not used as hydraulic backfill (dry tonnes)	-	-	656,344	683,438	645,927	326,832	804,400
Waste rock not used as backfill	36,729,762	-	-	301,811	492,689	-	-
Water treatment sludge	5	-	2,500	11,534	17	14	-

Labour Practices and Decent Work

Employment

401-1 New employee hires and employee turnover

New Employee Hires		Dolores	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo
<30	Men	33 0.46%	62 0.86%	9 0.12%	42 0.58%	13 0.18%	49 0.68%
	Women	1 0.01%	8 0.11%	5 0.07%	6 0.08%	3 0.04%	3 0.04%
Between 30 and 50	Men	56 0.78%	35 0.49%	24 0.33%	24 0.33%	22 0.30%	48 0.67%
	Women	1 0.01%	3 0.04%	5 0.07%	5 0.07%	0 0.00%	4 0.06%
>50	Men	7 0.10%	4 0.06%	3 0.04%	60 0.83%	3 0.04%	2 0.03%
	Women	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%
Total		98 1.36%	112 1.55%	46 0.64%	137 1.90%	41 0.57%	106 1.47%

Employee Turnover ⁽¹⁾		Dolores	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo
<30	Men	18 0.25%	59 0.82%	4 0.06%	8 0.11%	2 0.03%	7 0.10%
	Women	0 0.00%	1 0.01%	2 0.03%	2 0.03%	0 0.00%	2 0.03%
Between 30 and 50	Men	50 0.69%	31 0.43%	23 0.32%	31 0.43%	17 0.24%	38 0.53%
	Women	1 0.01%	3 0.04%	2 0.03%	3 0.04%	5 0.07%	5 0.07%
>50	Men	6 0.08%	4 0.06%	5 0.07%	6 0.08%	3 0.04%	4 0.06%
	Women	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%
Total		75 1.04%	98 1.36%	36 0.50%	50 0.69%	27 0.37%	56 0.78%

(1) Turnover includes permanent and contract employees. Turnover includes retirement, voluntary or involuntary departure of permanent employees.

Occupational Health and Safety

403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities

2018 Safety Performance	Dolores	La Colorada	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Lost time injury frequency ⁽¹⁾	0.23	1.44	1.54	1.73	4.05	1.61	1.41
Lost time injury severity ⁽²⁾	1,356	224	171	222	101	3,696	723

(1) Lost time injury frequency is calculated as the number of lost time injuries, including fatalities, in the exposure period multiplied by 1 million hours and divided by the total number of hours worked in that period.

(2) Lost time injury severity is a measurement of the seriousness of injuries and is calculated as the number of workdays lost due to lost time injuries multiplied by 1 million and divided by the total exposure hours. We count 6,000 lost workdays in the event of a fatal accident.

Historical Safety Performance ⁽¹⁾	2018	2017	2016	2015	2014
LTIF ⁽²⁾	1.41	1.26	0.74	1.09	1.14
LTIS ⁽³⁾	723	771	373	1,757	357
Fatalities	1	2	1	5	1

(1) Includes Contractors

(2) Lost time injury frequency is calculated as the number of lost time injuries, including fatalities, in the exposure period multiplied by 1 million hours and divided by the total number of hours worked in that period.

(3) Lost time injury severity is a measurement of the seriousness of injuries and is calculated as the number of workdays lost due to lost time injuries multiplied by 1 million and divided by the total exposure hours. We count 6,000 lost workdays in the event of a fatal accident.