

BC BREWERS RECYCLED CONTAINER COLLECTION COUNCIL

Annual Report to the Director

2018 Calendar Year



BREWERS RECYCLED CONTAINER
COLLECTION COUNCIL

Submitted to: **Executive Director**
Environmental Standards Branch
Ministry of Environment
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BRCCC 2018 Product Stewardship Report to the Executive Director, Environmental Standards Branch

1. Executive Summary

Products within plan:	Refillable Glass Beer, Cider & Cooler Containers, Metal Beverage Alcohol Cans and Secondary Packaging
Program website:	http://www.EnviroBeerBC.com

Recycling Regulation Reference	Topic	Summary (5 Bullet Maximum)
Part 2, Section 8(2)(a)	Public Education Materials & Strategies Schedule 1 & 5	<ul style="list-style-type: none"> Supplied new "swag" with BRCCC website printed on them used as giveaways meant to drive awareness of the programs Participated at several ambassador program events in conjunction with Product Care where BRCCC pamphlets and swag were distributed as well as answered the public's questions Continued promotion of the BC Recycles portal as a 'one-stop' location for information on recycling in BC
Part 2, Section 8(2)(b)	Collection Systems & Facilities Schedule 1 & 5	<ul style="list-style-type: none"> BRCCC delivers beer to retail locations and licensed establishments and collects containers at retail locations, licensed establishments and container depots BDL operates 1 warehouse facility and 8 delivery vehicles in BC There are 1,145 container redemption facilities for BRCCC program containers in the province; see tables 1 and 2 for breakdown by return location type and by regional district, respectively
Part 2, Section 8(2)(c)	Product Environmental Impact Reduction, Reusability & Recyclability Schedule 1 & 5	<ul style="list-style-type: none"> All primary containers are either reused or recycled All associated secondary packaging is returnable and recyclable Estimated waste diversion rate of 21,034 TN, avoided 81,822 TN of CO₂E associated with containers
Part 2, Section 8(2)(d)	Pollution Prevention Hierarchy & Product Component Management Schedule 1 & 5	<ul style="list-style-type: none"> Reduction of new materials used continues to be recognised through the reuse of refillable bottles Brewers receiving bottles for refilling have expressed intent to continue to refill those containers 100% of aluminum containers collected were recycled in 2018 100% of refillable glass collected are either sent for intended re-use by brewers or recycling (98.5% sent to brewers for re-use, 1.5% sent directly to a glass recycler for recycling) 100% of material reported as collected as packaging, sent to a recycler for recycling
Part 2, Section 8(2)(e)	Product Sold and Collected & Recovery Rate Schedule 1 & 5	<ol style="list-style-type: none"> 696.7 million containers sold and 621.7 million containers recovered 89.24% recovery rate For over a decade, the overall return rate has been maintained well over the recovery target 71.11% Secondary Packaging recovery rate
Part 2, Section 8(2)(e.1)		See Section 7 for estimated breakdown per regional district.

Part 2, Section 8(2)(f)	Summary of Deposits & Refunds Schedule 1	Deposits Received: \$71,396,551 Deposits Refunded: \$62,195,012 Audit of B.C. Brewers' Recycled Container Collection Council Financial Statements and audit procedures in connection with Sections 8(2)(b), (d), and (e) of the Recycling Regulation and deposits received and refunds paid conducted by KPMG LLP.
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Comparison of Key Performance Targets		
Part 2 – Section 8(2)(g); See full list of targets in Plan Performance		
Priority Stewardship Target (as agreed with Ministry File Lead)	Performance	Strategies for Improvement
1. <u>Container Return Rates</u> 87.5% recovery/collection rate in each container category	<u>Targets Partially Achieved:</u> <ul style="list-style-type: none"> • 94.71% return rate for refillable industry standard bottles (ISB) • 71.21% return rate for refillable proprietary glass bottles • 89.47% return rate for aluminum cans • 89.24% return rate overall 	<ul style="list-style-type: none"> • Improve strategy for collection of refillable proprietary glass bottles • Improve communication to brewers and collection network regarding changing the categories of containers
2. <u>Secondary Packaging Return Rates</u> 72% Recovery/Collection Rate of secondary packaging material	<u>Targets Partially Achieved:</u> <ul style="list-style-type: none"> • 71.11% recovery/collection rate attained for secondary packaging 	<ul style="list-style-type: none"> • Review secondary packaging collection system to identify opportunities for recovering more of the generated packaging • Work with existing partners to secure additional material for recovery (i.e. Recycle BC, Depot partners) • Continue working with brewers to refine the recovery tracking process for secondary packaging
3. <u>Consumer Accessibility for Containers:</u> — Improve consumer access to BRCCC return locations to 328 (250 LRS, 78 depots) with at least 1 contracted return location in each regional district	<u>Targets Partially Achieved:</u> <ul style="list-style-type: none"> • 182 return locations (109 LRS, 73 depots) • 26 of 28 regional districts with at least 1 contracted return location 	<ul style="list-style-type: none"> • Reviewing current coverage levels to identify key areas for LRS contracted expansion • Expanding Depot coverage to provide additional coverage in target areas • Perform additional drive time studies to identify potential areas that require increased coverage
4. <u>Consumer Accessibility for Secondary Packaging:</u> — 1,150 total return locations	<u>Targets Partially Achieved:</u> <ul style="list-style-type: none"> • 1,145 total return locations in the BRCCC network • Materials received from Recycle BC are collected through the Recycle BC network which includes additional collection locations not included in the 1,145 reported in the BRCCC network 	<ul style="list-style-type: none"> • Add incremental collection sites to the BRCCC collection network in potential areas that require increased coverage.
5. <u>Consumer Accessibility for Drive Time:</u> — 80% of population within 10 minute drive of BRCCC authorized return location	<u>Targets Achieved:</u> <ul style="list-style-type: none"> • 80% of population within a 10 minute drive of a BRCCC authorized return location 	N/A

<p>6. <u>Pollution Prevention</u></p> <p>100% of collected materials for re-use or to recycling commodity markets</p> <p>Secondary Packaging:</p> <ul style="list-style-type: none"> - Report in accordance with PHP - Track end fate of materials in annual stewardship audit 	<p><u>Targets Achieved:</u></p> <ul style="list-style-type: none"> • Aluminum: 100% Processed for metal recovery • Refillable Glass Bottles: <ul style="list-style-type: none"> - 98.5% of material shipped, sent to brewers for reuse (100% of which were intended to be refilled) - 1.5% of material shipped, sent directly to a glass recycler for recycling by BDL • 100% of material reported as collected, sent to a recycler for recycling 	<ul style="list-style-type: none"> • Continue to ensure service providers meet processing standards • Work with brewers and other collection locations to strengthen reporting and tracking systems
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2. Program Outline

The BC Brewers Recycled Container Collection Council (BRCCC) is a not-for-profit BC society, whose members represent over 95% of overall beer production in BC and the majority of import production. Those producers appointing BRCCC as their stewardship agency under Schedule 1 and Schedule 5 of the *Recycling Regulation* are comprised of breweries and other beverage alcohol manufacturers, including those operating in the province in addition to import brewers who designate BRCCC as their product steward when they obtain LDB approval to sell their products in BC.

Brewers Distributor Limited (BDL) is a joint venture company owned by Labatt Breweries of Canada and Molson Coors Canada that provides distribution services throughout Western Canada for the majority of brewers that sell into British Columbia. BDL operates warehouses and distribution facilities throughout British Columbia and distributes beer to provincially licenced liquor stores including government-run Liquor Distribution Branch (LDB) outlets, private licensee retail stores (LRS) and LDB rural agency stores (private businesses authorized by the LDB to sell liquor with other goods in small or remote communities) as well as bars, restaurants, and other licensed establishments.

BDL acts as the service provider to BRCCC, operating the stewardship program. On behalf of the BRCCC, BDL collects refillable glass beer, cider, and cooler bottles as well as imported & domestic metal beverage alcohol cans sold in British Columbia and the secondary packaging that accompanies those items (beer cases etc.). This recovery happens predominately in conjunction with the distribution of full goods, with container returns occupying trailers returning from delivering full goods to retail and private sites.

BDL's return collection includes the beer industry standard refillable glass bottle (ISB), non-standard proprietary refillable beer, cider, and cooler bottles and metal beverage alcohol cans as well as the packaging that accompanies these containers, and the packaging associated with non-refillable beer containers as applicable. BDL's distribution and collection also extends to beer kegs. Beverage alcohol sold in these containers includes a deposit which is paid by the consumer at the point of purchase and returned at the point of return. BRCCC has also established a cost recovery mechanism for cans and secondary packaging, which funds BRCCC's product stewardship functions through its subscribers. All costs associated with BRCCC and its container recovery system are internalized in brewers' operating costs and are not passed on to the consumer in addition to retail prices.

Consumers are able to return all program containers and associated packaging to any retail location where beer is sold or to a BRCCC authorized container return depot. BDL collects containers and packaging from these retail locations and authorized depots, as well as from licensees like bars and restaurants. Intact refillable containers are returned to the brewers to be reused in the brewing process, while damaged or broken bottles are sent to Pacific Metals Recycling International in Vancouver for recycling. Aluminum cans are compacted and were sent to Novelis in the United States in 2018 to be recycled into new cans and other aluminum based products. Paper packaging is sent to a number of recyclers to be turned into liner board used to make drywall, boxboard rolls to create packaging such as cereal boxes and tissue rolls.

Information on BRCCC's product stewardship systems can be found at www.EnviroBeerBC.com.

3. Public Education Materials & Strategies

BRCCC continues to enjoy among the highest consumer awareness levels in BC for its recovery program, with very high levels of consumer satisfaction with regard to their access to return locations. In 2016, the Stewardship Agencies of BC undertook a consumer awareness survey with respect to the various stewardship programs operating in BC (results were received in Q3 2016).

Based on these results, BRCCC’s program for beer containers was the among the most well-known of the stewardship programs. Among all respondents, 95% of BC residents were aware of the program for beer containers, with 98% of those with the relevant product being aware of BRCCC’s program for refillable alcohol containers and alcohol cans.

In 2017, BRCCC’s consumer awareness strategy has focused on reinforcing the effectiveness of the container recovery program while at the same time introducing the complimentary secondary packaging program that was approved by the B.C Ministry of Environment in late 2016. The secondary packaging program was launched in 2017 and saw a number of announcements and updates made to help educate stakeholders about the program. Overall, BRCCC continued efforts to a) educate stakeholders – principally the consumer – about BRCCC and how its stewardship system operates and the environmental benefits it delivers; and b) promoting the authorized return locations within its stewardship network. To aid in the education of consumers, the infographic below was created that outlines the circular nature of the packaging associated with beer and ciders and emphasises the industry’s efforts to ensure that 100% of all packaging material used is fully recyclable.



BRCCC continued to work with ABLE BC to secure additional private retail liquor locations to support collections. ABLE BC regularly informs their members of this benefit through newsletters, publications and surveys.

In 2018, new program “swag” was supplied with the BRCCC website printed on them including items like coasters, beer cozies, and frisbees and used as give-aways meant to drive awareness of the programs. These were distributed at several ambassador program events put on by Product Care at farmer’s markets, festivals, and community events. Pamphlets with BRCCC information were handed out and individuals were on hand to answer any questions.

Finally, BRCCC continues to maintain its membership in the Stewardship Agencies of BC (SABC). As a member of SABC, BRCCC funds the Recycling Council of BC’s (RCBC) various consumer information vehicles, such as the Recycling Hotline, the RCBC website and the Recyclepedia. BRCCC also directs consumers to the ‘BC Recycles’ portal as a one-stop location for information on recycling in BC.

4. Collection System and Facilities

Consumers can return all program containers and related secondary packaging to BRCCC Authorized Depots, Licensee Retail Stores (LRS), Government Liquor Stores (GLS) and Rural Agency Locations (RAL) for their deposit redemption. BRCCC, through BDL, also provides on-site collection services through thousands of licensed establishments (i.e. restaurants and bars). Table 1 provides the number and type of operating collection facilities within the province. In 2018, BDL performed the collection, sorting, and storage of

containers from one warehouse location. Transport and distribution of product and collection of containers is supported by a fleet of 8 BDL vehicles as well use of third party carriers, where required. BRCCC also accepts all secondary packaging associated with containers for return and recycling.

Table 1 – BC Container Redemption Locations for Beer Containers & Secondary Packaging

Return Location Type	2018	2017
BDL Authorized Depots	73	71
Licensee Retail Stores	649	653
Government Liquor Stores	200	200
Rural Agency Locations	223	222
Grand Total	1145	1146

Currently, there are 1,145 retail and authorized depot redemption centres available for container collections across British Columbia. This is a reduction of 1 location from 2017. BRCCC facilitates a high rate of return of containers through its convenient and numerous collection facilities within all regional districts of British Columbia, as outlined in Table 2.

Table 2 – Number of Collection Locations by Regional District

Regional Districts	2018 (All Locations)	2017 (All Locations)	2018 (Contracted Locations)	2017 (Contracted Locations)
Alberni - Clayoquot	17	17	7	7
Bulkley - Nechako	19	19	5	5
Capital	85	84	16	15
Cariboo	40	39	6	6
Central Coast	4	4	0	0
Central Kootenay	42	44	5	3
Central Okanagan	50	50	7	7
Columbia - Shuswap	37	40	2	2
Comox Valley	24	25	5	5
Cowichan Valley	30	28	8	8
East Kootenay	35	35	2	2
Fraser - Fort George	36	34	14	13
Fraser Valley	74	73	8	9
Greater Vancouver	297	295	45	45
Kitimat - Stikine	17	17	8	7
Kootenay Boundary	17	18	0	1
Mount Waddington	18	18	1	1
Nanaimo	47	48	6	5
North Okanagan	32	32	2	2
Northern Rockies	4	5	2	2
Okanagan - Similkameen	37	36	5	4
Peace River	31	32	3	3
Powell River	12	12	1	1
Skeena - Queen Charlotte	12	12	4	4
Squamish - Lillooet	20	20	4	3
Strathcona	31	31	7	6
Sunshine Coast	15	15	4	3
Thompson - Nicola	62	63	5	4
Grand Total	1145	1146	182	173

BRCCC, through BDL, continues to monitor coverage levels to identify key areas for LRS contracted expansion that would improve the consumer experience as well as overall productivity of the program. In 2018, the BRCCC conducted a drive time study and concluded that 80% of British Columbia residents are within a 10 minute drive of a BRCCC authorized return location. Consumers can visit www.EnviroBeerBC.com/Locations/ to search for the closest authorized BRCCC Depot or retail location by postal code.

With the introduction of Schedule 5, secondary packaging, some material is also sourced in accordance with contractual arrangements between BRCCC and other recyclers. In 2018, a large portion, 1250 tonnes (2017: 917 tonnes) of material was acquired from Recycle BC in the calendar year. This helps to capture the secondary packaging associated with one-way glass containers and other beer and cider packaging that may not have otherwise come back with the containers. This material was collected via the Recycle BC network and therefore collected at even more collection locations than outlined in the tables above.

5. Product Environmental Impact Reduction, Reusability and Recyclability

The brewers of British Columbia hold environmental awareness and preservation in high regard. The industry has taken back containers and packaging since brewers started brewing in the province over 130 years ago; the practice continues today. The foundation of BDL's business strategy remains the efficient collection and recycling of containers and packaging and maximizing return rates, which helps achieve environmental goals, and ensures fewer raw materials are in use in the brewing process. Providing consumers with the ability to take-back returns at retail establishments generates high returns on containers and packaging and does so in a cost-effective manner. Coordinating the redistribution of trailer space between full goods and returned containers reduces fuel consumption, which minimizes environmental impact and operating costs. The cost-effectiveness of the system enables the brewing sector to maintain production in refillable containers and encourages new brewers in BC to use refillable over non-refillable containers. Each new entrant who chooses to use refillable containers continues to shrink the environmental impact of the industry and contributes to its exceptional return rates.

The pillar of BDL's business model is the recovery rates of the containers and by extension the related secondary packaging as the majority of the bottles returned to a collection location are done so in their original packaging. All secondary packaging produced by brewers in BC is 100% recyclable and by returning it to a collection location along with the containers, it ensures that cardboard and plastic are being kept out of landfills. Through the network of return locations, these resources are able to be optimized for high-end recycling and sold back to industry to be used again.

In order to maximize the efficiency of the production cycle, the Canadian beer industry has developed an industry standard bottle (ISB), which is available to every brewer in the country. The use of a standard bottle limits the need and cost for specialized handling and storage of bottles returning to different brewers and significantly improves the production efficiencies by eliminating the need for brewers to perform costly packaging line changeovers. Presently there are numerous western Canadian breweries that are signatories to the Standard Mould Bottle Agreement (sometimes referred to as the Industry Standard Bottle Agreement) and sell their products in the ISB. The economic efficiency of the British Columbia brewers' reuse and recycling system extends its benefits as savings to the consumers and to the environment.

BRCCC's container redemption system generates one of the highest return rates for aluminum cans in North America. Producing cans from recycled aluminum instead of virgin aluminum reduces the energy resources used and pollution produced.

The secondary packaging (the outer box) is more than just packaging in this circular economy. As long as the case is intact, these cases also act as the transportation vessel that the refillable containers travel back to brewers in.

6. Pollution Prevention Hierarchy and Product / Component Management

The Schedule 1 product stewardship plan outlines two types of containers to be used by the BRCCC brand owners: refillable glass bottles and recyclable metal (principally aluminum) cans. According to the expanded hierarchy of material management, reuse and recycle are among the most favourable forms of prevention (see Figure 1)¹. BRCCC remains committed to ensuring the use of 100% recyclable and non-toxic containers, each with their own well established secondary markets. The long-standing history of the refillable glass bottle along with its substantial environmental benefits sets its precedent as the preferred container type among brewers, especially when compared to one-way glass containers. Each time a glass bottle is reused, the total amount of raw materials needed is reduced, as well as the energy resources needed to produce new glass stock. This helps the beer industry significantly reduce its CO2 emissions and save significant amount of energy. Operationally, the washing and cleaning of refillable bottles requires much less energy and water than that of producing new glass. For each tonne of aluminum recycled, over 200 GJ of energy are saved in avoided production processes including: bauxite mining, alumina refining, and electrolysis².

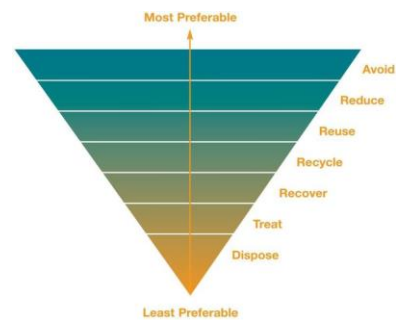


Figure 1 Pollution Prevention Hierarchy

The number of refillable glass bottles shipped to brewers for re-use is tracked and recorded by BDL, as well as the weight of broken or culled glass shipped directly to glass recyclers. BDL's records also include the weights of aluminum cans that are crushed into "biscuits" and shipped to aluminum recyclers. In 2018, 100% of the aluminum and glass containers sent from BDL to recyclers was recycled. By reusing and recycling containers and packaging, then releasing the containers back into the market, brewers maintain their commitment to the environment and ensure that the recycling operations done by BDL are utilized to the fullest. Table 3 shows the results for the materials recovered in 2018.

Table 3: Results of Recovered Containers & Packaging 2018³

Type of Container	Results of Recovered Material	
Aluminum Cans	100% Processed for metal recovery	
Refillable Glass Bottles	100% of the material sent to Brewers were intended to be refilled	
	98.5% of material shipped, sent to brewers for reuse	1.5% of material shipped, sent directly to a glass recycler for recycling by BDL
Secondary Packaging	100% of material reported as collected, sent to a recycler for recycling	

BRCCC's product stewardship system for containers also results in energy savings and reduced greenhouse gas (GHG) emissions, which are significant and are outlined in Table 4. The estimated GHG reductions associated with the program's recycling and reuse in 2018 are equivalent to pulling over 17,372⁴ cars off of provincial roads.

¹ See Zero Waste SA: South Australia's Waste Strategy 2011-2015. 2011 Report

² PE Americas. Life Cycle Impact Assessment of Aluminum Beverage Cans. 2010 Report.

³ Results of Recovered Containers reviewed by KPMG LLP

⁴<http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results>

Table 4 - Energy, Greenhouse Gas, and Avoided Pollutants Associated with BRCCC Container Recovery 2018

Pollution Prevention Metric	Glass Reuse & Recycling	Aluminum Recycling	Total Diversion
Weight of Materials Diverted (tonnes)	13,079	7,956	21,034
Avoided GHG Emissions (MT-CO2-eq)	4,970	76,852	81,822
Avoided Energy Consumption (GJ)	88,935	695,011	783,945
Avoided Pollution - Nitrogen Oxides (tonnes)	23	250	272
Avoided Pollution - Sulphur Oxides (tonnes)	80	726	806
Avoided Pollution - Particulate Matter (tonnes)	49	252	301
Avoided Pollution - Solid Waste (tonnes)	872	34,186	35,057

Note: Figures in table have been rounded

The significant environmental savings associated with recycling aluminum extend from energy reduction to direct atmospheric emissions. Nitrogen oxides, sulphur dioxides, and particulate matter emissions are reduced by over 60%, 90% and 95% respectively when aluminum products are made from recycled materials. In 2018, the estimated total emission reductions of nitrogen oxides, sulphur oxides and particulate matter from recycling aluminum and reusing glass bottles in BC are 272, 806, and 301 metric tonnes respectively.

Additionally, the production of aluminum generates solid waste that is four and a half times heavier than the resulting aluminum. The BRCCC container recovery system ensures the reduction of significant quantities of virgin aluminum or glass production through reuse and recycling. An estimated 35,057 metric tonnes of solid waste were prevented in 2018 as a result of BRCCC's container management. The prevented waste is also in addition to the approximately 21,024 tonnes of reused or recycled materials already diverted from provincial landfills in 2018 as a result of BRCCC's efforts. Combined, these totals represent BRCCC's accumulative impact of roughly 56,091 tonnes of reduced solid waste production annually – equivalent to approximately \$6.1 million in Vancouver tipping fees⁵. In summary, BRCCC continues to deliver outstanding results for British Columbia's environment through its product stewardship program.

In 2017, BRCCC began to run a schedule 5 program to recover secondary packaging associated with beer and cider (refillable and one-way containers), the vast majority of this packaging is boxboard/cardboard, such as can cases and beer boxes. These materials are then sent to a recycler and eventually make their way into a variety of products including cereal boxes and drywall components.

7. Product Sold and Collected and Recovery Rate

Return rates for most BRCCC container categories exceed the 87.5% performance target established under the 2015-2019 stewardship plan and also greatly exceed the 75% target mandated under the Environmental Management Act regulations. Refillable proprietary bottles was the only category that fell short of the target for the year with a return rate of 71.21%. This is primarily due to the introduction of a new refillable bottle to the category, that was previously non-refillable. This newly introduced container currently makes up nearly half of the refillable proprietary sales category. The new refillable bottle was introduced early in February, however it continued to be collected through the non-refillable bottle program outside of BDL and BRCCC until April, as was directed. After April,

⁵ Based on Vancouver 2015 tipping fee of \$109 per tonne for waste disposal.

http://www.bctrucking.com/sites/default/files/gvsdd_2015_tipping_fee_bylaw_no._287.pdf

depots were to begin returning the empty bottles to BDL so they could be shipped back to the brewer for refilling. It is common for a delay in operational transition when a container changes categories, particularly for depots and other collectors to recognize and redirect for refilling when previously listed as non-refillable. This was particularly true of these containers as the two container types are very similar. When removing this container's sales and returns from the totals, the refillable proprietary return rate increases to 81.2% which is in line with previous years and closer to target. Irrespective of this gap, given that the overall sales of refillable proprietary sales make up only 2.8% of all container sales, the overall impact on the recovery rate performance is low.

In 2018, BRCCC's product stewardship plan collected over 621 million containers with an overall program return rate of 89.24%. For over a decade, the overall return rate has been maintained well over the recovery target. Table 5 outlines a summary of the recovery rate by container type for 2018.

Table 5a – BRCCC Container Recovery Rates 2018⁶

Container Type	Sales Dozens	Returns Dozens	Recovery Rate (%)
Cans	53,377,451	47,757,018	89.47%
Refillable Glass Containers			
Industry Standard Bottles	3,066,296	2,904,115	94.71%
Non-Standard Bottles	1,618,671	1,152,721	71.21%
Total Refillables	4,684,966	4,056,836	86.59%
Total All Containers	58,062,417	51,813,854	89.24%

Note: Figures in Table 5 have been rounded

Table 5b – BRCCC Secondary Packaging Recovery Rates 2018⁶

Packaging Type	Tonnes Generated	Tonnes Recovered	Recovery Rate (%)
Secondary Packaging	4,383	3,117	71.11%

Secondary Packaging and Other Containers

BRCCC is proud to have been collecting and recycling secondary packaging now included in Schedule 5 (Packaging and Printed Paper) of the BC Recycling Regulation for decades prior to its enactment. Since 2017, in addition to refillable beer containers and alcohol containers, the BRCCC has been running a program that formally includes the collection of all secondary packaging associated with those containers as well as imported beer and ciders. BRCCC provides a return and recycle option for all associated packaging related to every product sold to customers.

BDL also sells and facilitates the collection and recycling of beer kegs. In 2018, BDL sold approximately 259,938 kegs primarily to licensed establishments. The efficiency of the closed loop collection system offered by BDL ensures similar results for kegs as other stewardship program containers. In 2018, the return rates for these container types were in excess of 97%. This volume is

⁶ Data reviewed by KPMG LLP. Sales for non-industry standard refillable bottles were provided by the BC Liquor Distribution Branch (LDB)

equivalent to over 3.73 million cases of packaged beer⁷, which translates to approximately 590 tonnes of aluminum or 11,834 tonnes of glass bottles⁸.

Table 6 provides estimated values of program diversion by regional district. As BRCCC does not compile sales of collection data by Regional District, the values for diversion estimates were assumed to follow the per capita distribution for each district. Population distribution estimates for 2018 were obtained from the BC Stats website⁹.

Table 6 - 2018 Program Diversion Estimates by Regional District (Based on Collected Materials)

Regional District	Aluminum Units (000)	Aluminum Weight (Tonnes)	Glass Units (000)	Glass Weight (Tonnes)	Total Units (000)	Total Schedule 1 Weight (Tonnes)	Secondary Packaging Weight (Tonnes)	Total Weight (Tonnes)
Alberni-Clayoquot	3,816	52	324	86	4,141	138	21	159
Bulkley-Nechako	4,599	63	391	103	4,990	167	25	192
Capital	47,462	652	4,032	1,067	51,494	1,719	258	1,977
Cariboo	7,498	103	637	169	8,135	272	41	312
Central Coast	402	6	34	9	437	15	2	17
Central Kootenay	7,195	99	611	162	7,806	261	39	300
Central Okanagan	23,978	330	2,037	539	26,015	869	130	999
Columbia-Shuswap	6,368	88	541	143	6,909	231	35	265
Comox Valley	8,213	113	698	185	8,910	297	45	342
Cowichan Valley	10,376	143	881	233	11,258	376	56	432
East Kootenay	7,348	101	624	165	7,972	266	40	306
Fraser Valley	36,637	504	3,112	823	39,750	1,327	199	1,526
Fraser-Fort George	11,522	158	979	259	12,501	417	63	480
Kitimat-Stikine	4,590	63	390	103	4,980	166	25	191
Kootenay-Boundary	3,806	52	323	86	4,129	138	21	159
Metro Vancouver	304,726	4,189	25,886	6,849	330,611	11,038	1,657	12,695
Mount Waddington	1,331	18	113	30	1,444	48	7	55
Nanaimo	19,191	264	1,630	431	20,821	695	104	800
North Coast	2,160	30	183	49	2,343	78	12	90
North Okanagan	10,303	142	875	232	11,178	373	56	429
Northern Rockies	634	9	54	14	688	23	3	26
Okanagan-Similkameen	10,166	140	864	228	11,029	368	55	424
Peace River	7,566	104	643	170	8,209	274	41	315
Qathet	2,452	34	208	55	2,660	89	13	102
Squamish-Lillooet	5,211	72	443	117	5,654	189	28	217
Strathcona	5,525	76	469	124	5,995	200	30	230
Sunshine Coast	3,671	50	312	83	3,983	133	20	153
Thompson-Nicola	16,337	225	1,388	367	17,725	592	89	681
British Columbia	573,084	7,877	48,682	12,881	621,766	20,758	3,117	23,875

⁷ Assumed 58.67L Kegs and 12 x341 glass bottles as a package

⁸ Assumed 7lbs/case of glass bottles and 1lbs per 33 355ml cans

⁹ Source: <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>

Summary of Deposits, Refunds, Revenues and Expenditures

Costs associated with the collection systems are managed by BRCCC, which operates on a non-profit basis.

a. Refillable Bottles

In the case of refillable bottles, manufacturers are assessed a per-dozen fee for the collection, sorting and return of containers based on projected and audited costs. Costs associated with cleaning and reusing refillable bottles are borne by the manufacturer.

b. Recycled Cans

BRCCC retains unredeemed deposits with respect to can sales and BRCCC retains revenues from aluminum material sales to offset costs related to: administration, transportation, collection and sorting fees and infrastructure. In 2018, there was no additional container cost recovery charged to brewers for cans under the program. BDL, on behalf of BRCCC, has also entered into service agreements with several container return depots for collection and sorting services. BRCCC revenues collected from both cans and bottles pay return location partners for the collection, sorting and return of BRCCC containers.

In the case of the Liquor Distribution Branch, BRCCC continues to operate under an agreement with the agency to pay it handling fees for each container collected from its stores. Licensee retail stores that sign up as contracted collection partners are also paid a handling fee for each container collected.

In accordance with the *Recycling Regulation*, Table 7 outlines the deposits received and paid for each container type.

Table 7 2018 Deposit Summary

	Cans	Industry Standard Bottles (ISB)	Non-ISB Refillable Bottles	Total
Deposits Received (\$)	\$65,518,973	\$4,051,361	\$1,826,218	\$71,396,551
Refunds Paid (\$)	\$57,297,984	\$3,513,763	\$1,383,265	\$62,195,012

Note: The figures are in accordance with an audit of B.C. Brewers' Recycled Container Collection Council Financial Statements and audit procedures in connection with Sections 8(2)(b), (d), and (e) of the Recycling Regulation and deposits received and refunds paid conducted by KPMG LLP.

Secondary Packaging

Costs related to the recovery of secondary packaging are assessed to program brewers based on a per tonne rate set annually which is intended to cover any costs related to the collection of secondary packaging. The efficient collection method in place for decades assists in keeping the program costs relatively low.

8. Plan Performance

Target	2018 Performance	Strategies for Improvement
87.5% recovery/collection rate in each container category	<ul style="list-style-type: none"> 94.71% return rate for refillable industry standard bottles (ISB) 71.21% return rate for refillable proprietary glass bottles 89.47% return rate for aluminum cans 89.24% return rate overall 	<ul style="list-style-type: none"> Improve strategy for collection of refillable proprietary glass bottles Improve communication to brewers and collection network regarding changing the categories of containers
72% Recovery/Collection Rate of secondary packaging material	<ul style="list-style-type: none"> 71.11% recovery/collection rate attained for secondary packaging 	<ul style="list-style-type: none"> Review secondary packaging collection system to identify opportunities for recovering more of the generated packaging Work with existing partners to secure additional material for recovery (i.e. Recycle BC, Depot partners) Continue working with brewers to refine the recovery tracking process for secondary packaging
<p>Accessibility Targets: Containers</p> <ul style="list-style-type: none"> Improve consumer access to BRCCC return locations to 328 (250 LRS, 78 depots) with at least 1 contracted return location in each regional district 	<ul style="list-style-type: none"> 182 return locations (109 LRS, 73 depots) 26 of 28 regional districts with at least 1 contracted return location 	<ul style="list-style-type: none"> Reviewing current coverage levels to identify key areas for LRS contracted expansion Expanding Depot coverage to provide additional coverage in target areas Perform additional drive time studies to identify potential areas that require increased coverage
<p>Accessibility Targets: Secondary Packaging</p> <ul style="list-style-type: none"> 1,150 total return locations 	<ul style="list-style-type: none"> 1,145 total return locations in the BRCCC network Materials received from Recycle BC are collected through the Recycle BC network which includes additional collection locations not included in the 1,145 reported in the BRCCC network 	<ul style="list-style-type: none"> Add incremental collection sites to the BRCCC collection network in potential areas that require increased coverage
<p>Accessibility Targets: Drive Time</p> <ul style="list-style-type: none"> 80% of population within 10 minute drive of BRCCC authorized return location 	<ul style="list-style-type: none"> 80% of population is within a 10 minute drive of a BRCCC authorized return location 	N/A
<p>Pollution Prevention Hierarchy/ Product Life Cycle Targets:</p> <p>100% of collected materials for re-use or to recycling commodity markets</p> <p>Secondary Packaging:</p> <ul style="list-style-type: none"> Report in accordance with PHP Track end fate of materials in annual stewardship audit 	<ul style="list-style-type: none"> Aluminum: 100% Processed for metal recovery Refillable Glass Bottles: <ul style="list-style-type: none"> 98.5% of material shipped, sent to brewers for reuse (100% of which were intended to be refilled) 1.5% of material shipped, sent directly to a glass recycler for recycling by BDL 100% of material reported as collected, sent to a recycler for recycling 	<ul style="list-style-type: none"> Continue to ensure service providers meet processing standards Work with brewers and other collection locations to strengthen reporting and tracking systems

In closing, BRCCC would like to thank all of our partners and the residents of British Columbia for making the programs successful and for ensuring that container reuse is possible in the province. BRCCC looks forward to a successful 2019 program year and striving to heighten consumer awareness of the packaging recovery system.



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INDEPENDENT ASSURANCE REPORT TO BC BREWERS RECYCLED CONTAINER COLLECTION COUNCIL

To the Directors of BC Brewers Recycled Container
Collection Council

Assurance level and subject matter

We have been engaged by BC Brewers Recycled Container Collection Council (“BRCCC”) and the management of Brewers Distributor Limited (“BDL”) (collectively “Management”) to undertake a reasonable assurance engagement in respect of the following disclosures in BRCCC’s Annual Report to the Director, for the 2018 calendar year (together the “Subject Matter”):

- Section 4 (Table 1 and Table 2) *Collection System and Facilities* – the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of BC Regulation 449/2004 (the Recycling Regulation);
- Section 6 (Table 3) *Pollution Prevention Hierarchy and Product/Component Management* – the Company’s description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- Section 7 (Table 5a and Table 5b) *Product Sold and Collected and Recovery Rate* – the total amounts of product sold and collected and recovery rate in accordance with Section 8(2)(e) of the Recycling Regulation;
- Section 8 (2018 Performance) *Plan Performance* – the Company’s description of performance for the year in relation to targets under Section 8(2)(g) of the Recycling Regulation that are associated with Section 8(2)(b), (d) and (e); and,
- Section 7 (Table 7) BRCCC Deposit Summary – Deposits received and refunds paid of cans, industry standard bottles (ISB) and non-ISB.



BRCCC Responsibilities

Management is responsible for the preparation and presentation of the Subject Matter that is free of material misstatement and is in accordance with the evaluation criteria.

Management is also responsible for establishing and maintaining appropriate performance management and internal control systems from which the reported Subject Matter is derived, for preventing and detecting fraud and for identifying and ensuring that BRCCC complies with laws and regulations applicable to its activities.

Our responsibility and professional requirements

Our responsibility in relation to the Subject Matter is to perform a reasonable assurance engagement and to express a conclusion based on the work performed. Our opinion does not constitute a legal determination on BRCCC's compliance with the Recycling Regulation.

We conducted our engagement in accordance with *International Standard on Assurance Engagements (ISAE) 3000 (Revised) Assurance Engagements other than Audits or Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards Board. ISAE 3000 requires that we plan and perform our procedures to obtain reasonable assurance about whether the Subject Matter is presented fairly, in accordance with the evaluation criteria, in all material respects.

The firm applies *International Standard on Quality Control 1* and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Applicable criteria

The suitability of the evaluation criteria is the responsibility of Management. The evaluation criteria presented in Appendix 1 are an integral part of the Subject Matter and address the relevance, completeness, reliability, neutrality and understandability of the Subject Matter.

Summary of work performed

We planned and performed our work to obtain all of the evidence, information and explanations we considered necessary in order to form our conclusion as set out below. A reasonable assurance engagement includes examining, on a test basis, evidence supporting the amounts and disclosures within the Subject Matter. A reasonable assurance engagement also includes assessing the evaluation criteria used and significant estimates made by management, as well as evaluating the overall presentation of the Subject Matter. The main elements of our work were:

- Inquiries of relevant management, including walkthroughs, to gain an understanding of the Company's data collection and reporting processes in relation to the Subject Matter included in the Annual Report;



- Performing walkthroughs to test the design, and where relevant the operating effectiveness, of internal controls relating to data collection and reporting of the Subject Matter;
- Comparison of collection facility data included in the Annual Report to internal records and reconciliation with third party records;
- Comparison of sales and collection data included in the Annual Report to internal records and recalculation of data, where appropriate;
- Comparison of product recycling data against internal records of transfers to recycling facilities;
- Comparison of data on product reused data against internal records of delivery to brewers;
- Comparison of data on secondary packaging to records of Recycle BC, Liquor Distribution Branch (LDB) and the individual brewers; and,
- Comparison of deposits received and refunds paid on cans against internal records of BRCCC and BDL of refunds and payments for cans, ISB and non-ISB.

Opinion

In our opinion, the Subject Matter within the BDL Annual Report for the year ended December 31, 2018 presents fairly in accordance with the evaluation criteria, in all material respects:

- Location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of the Recycling Regulation;
- the description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- the total amounts of the producer's product sold and collected and, if applicable, the producer's recovery rate in accordance with Section 8(2)(e) of the Recycling Regulation;
- the performance for the year in relation to targets under Section 8(2)(g) of the Recycling Regulation that are related to Section 8(2)(b), (d) and (e); and,
- the total amount of deposits received and refunds paid on cans, ISB and non-ISB.

Emphasis of matter

Without qualifying our opinion we draw attention to the following sections in the Annual Report which are critical to an understanding of the disclosures related to treatment of recovered containers in 2018:

- As disclosed in Section 6 (Table 3) in the Annual Report, 98.5% of refillable bottles were sent to brewers for reuse. We note that the actual rate of reuse by brewers is not reported to BDL and was not within the scope of our audit.



- As discussed in Section 4 the secondary packaging recovered of 3,117 tonnes reported in Section 7 (Table 5(b) includes 1,349 tonnes of material acquired from Recycle BCs recovery network and other recyclers. This tonnage is a subset of the total tonnage of secondary packaging processed by Recycle BC and other recyclers.

KPMG LLP

Toronto, Canada

June 24, 2019



APPENDIX 1 TO THE AUDITOR’S REPORT

EVALUATION CRITERIA

COLLECTION FACILITIES

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Annual Report Reference
Total Contracted Collection Facilities – 182 locations	4. Collection System and Facilities table 2 on Page 7
Location of contracted collection facilities -- by region	4. Collection System and Facilities table 2 on Page 7
Change in the number and locations of contracted collection facilities in 2018 -- Comparison between 2018 and 2017	4. Collection System and Facilities table 2 on Page 7

The following evaluation criteria were applied to the assessment of the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of the Recycling Regulation:

1. Total number of contracted collection facilities includes Licensee Retail Stores, Government Liquor Stores and BDL authorized depots and their satellites that BDL has a contractual relationship with.
2. Collection facilities are divided into 28 regional districts in BC based on the address in BDL’s J.D. Edwards system. Addresses of the facilities per BDL are reconciled with those provided by Liquor Distribution Branch (LDB) where applicable at a regional district level.

Changes in the number and location of collection facilities are calculated based on comparison to the previous year’s list by regional district.



PRODUCT SOLD AND COLLECTED

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Annual Report Reference
BRCCC Container Sales 2018 (dozens): ISB – 3,066,296 Non-ISB – 1,618,671 Total Refillables – 4,684,966 Cans – 53,377,451 BRCCC Container Recovery 2018 (dozens): ISB – 2,904,115 Non-ISB – 1,152,721 Total Refillables – 4,056,836 Cans – 47,757,018 BRCCC Container Recovery Rates 2018: ISB – 94.71% Non-ISB – 71.21% Total Refillables – 86.59% Cans – 89.47%	7. Product Sold and Collected and Recovery Rate Table 5a on Page 11
Secondary Packaging 2018: Tonnes Generated – 4,383 Recovered – 3,117 Recovery Rate 2018: 71.11%	7. Product Sold and Collected and Recovery Rate Table 5b on Page 11

The following evaluation criteria were applied to the assessment of the description of how total amounts of the producer’s product sold and collected the tonnes of secondary packaging generated and recovered and the recovery rates has been calculated in accordance with Section 8(2)(e):

1. Product sold: The total number of bottles or cans sold is based on the sales



figures received from the LDB

2. Product collected - bottles:

- The total number of bottle returns (product collected) is calculated as follows: Closing inventory balance - Opening inventory balance + Returns to brewers during the calendar year.
- The quantity of bottles returned to brewers from BDL warehouses is based on records in the J.D. Edwards system.
- Opening and closing inventory balances at BDL warehouses are based on year-end physical counts as recorded in the J.D. Edwards system.

3. Product collected--cans: Total number of can returns is based on the total recorded in the J.D. Edwards system during the calendar year.

4. The tonnes generated is based on information provided by the brewers.

5. The tonnes recovered is based on:

- The amount of acquired material from Recycle BC and other recyclers.
- The amount of secondary packaging that the LDB report has recovered; this is determined based on the rate of beer packaging material as a percentage of total packaging material recovered by LDB.
- The amount of secondary packaging the brewers report as recovered.

Management of Recovered Product

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Annual Report Reference
Aluminum cans: <ul style="list-style-type: none"> • 100% processed for material recovery Refillable glass bottles: <ul style="list-style-type: none"> • 1.5% of material shipped, sent directly to a glass recycler for recycling by BDL • 98.5% of material sent to brewers for reuse 	7. Pollution Prevention Hierarchy and Product/Component Management Table 3 on Page 9

The following evaluation criteria were applied to the assessment of the description of the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation:

1. Aluminum cans

The total weight of cans received by Novelis is based on Novelis' confirmation of each shipment by BDL during calendar year 2018. Total weight confirmed by Novelis is



reconciled with total weight shipped by BDL. End fate of aluminum cans is based on qualitative end fate data reported by Novelis to BDL.

2. Refillable bottles sent directly from BDL for recycling

The quantity of bottles/glass sent by BDL to Pacific Metals for recycling is determined based on J.D.Edwards system data on empty shipments to Pacific Metal with the description “ditched bottles”.

The % sent directly from BDL for recycling is calculated as: the quantity of bottles/glass sent to Pacific Metals during the reporting year (equivalent of dozens) divided by the total quantity of bottles/glass sent to Pacific Metals and bottles sent to brewers during the reporting year (equivalent of dozens)

3. Refillable bottles sent to brewers:

The quantity of bottles sent to brewers for reuse is determined based on J.D.Edwards system data on empty shipments to brewers.

The % sent to brewers is calculated as: the quantity of bottles sent to brewers during the reporting year (equivalent of dozens) divided by the total quantity of ditched bottles/glass sent to Pacific Metals and bottles sent to brewers during the reporting year (equivalent of dozens)

Following the instruction in Waste Prevention Branch’s email to Stewards on February 18, 2016: *“Reuse” of a product as it was originally intended (e.g. bottles) does not need to be assured beyond when the product is shipped from the program if evidence is provided that demonstrates the intent is reuse (e.g. the auditor will not need to confirm the actual reuse of the individual product).*

TARGETS

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Annual Report Reference
Recovery Targets: 2018 Assertion – Targets partially achieved: 94.71% return rate for refillable ISB 71.21% return rate for refillable proprietary glass bottles 89.47% return rate for aluminum cans 89.24% return rate overall	8. Plan Performance on Page 14



Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Annual Report Reference
<p>Recovery Targets:</p> <p>2018 Assertion – Target not achieved</p> <p>71.11% recovery/collection rate attained for secondary packaging</p>	<p>8. Plan Performance on Page 14</p>
<p>Accessibility Targets (Containers):</p> <p>2018 Assertion – Targets not achieved:</p> <p>109 private licensee retail stores</p> <p>73 depots</p> <p>26 of 28 regional districts with at least 1 contracted return location</p>	<p>8. Plan Performance on Page 14</p>
<p>Accessibility Targets (Secondary Packaging):</p> <p>2018 Assertion – Targets not achieved:</p> <p>1,145 total return locations in the BRCCC network</p> <p>Materials received from Recycle BC and other recyclers are collected through the Recycle BC network and other recyclers which includes additional collection locations not included in the 1,145 reported in the BRCCC network</p>	<p>8. Plan Performance on Page 14</p>
<p>Pollution Prevention Hierarchy/Product Life Cycle Targets:</p> <p>2018 Assertion – Targets achieved:</p> <p>Aluminum: 100% Processed for metal recovery</p> <p>Refillable Glass Bottles:</p> <p>98.5% of material shipped, sent to brewers for reuse (100% of which were intended to be refilled)</p> <p>1.5% of material shipped, sent directly to a glass recycler for recycling by BDL</p> <p>100% of material reported as collected, sent to a recycler for recycling</p>	<p>8. Plan Performance on Page 14</p>

The following evaluation criteria were applied to the assessment of the description of performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) of the Recycling Regulation.



1. Recovery Targets: Recovery rate of 87.5% in each container category

Recovery rate is calculated as follows: container returned during the period ÷ container sold during the period. The description of progress against targets to date is supported by records of progress maintained by the Company.

2. Recovery Targets: Secondary packaging 72% of secondary packaging material

3. Accessibility Targets (Containers): 328 unlimited return locations (250 Licensee Retail Stores (LRS), 78 depots) and at least 1 unlimited return location in each regional district

Unlimited Collection Partners are those locations active as of Dec 31 that have a contractual relationship with BDL to collect unlimited containers from customers, and refund customers the full amount of the deposit per bottle or can. The description of progress against targets to date is supported by records of progress maintained by the Company.

Regional district is allocated based on address of the collection facility.

4. Accessibility Targets (Secondary Packaging): 1,150 total return locations.

5. Pollution Prevention Hierarchy/Product Life Cycle Targets: 100% of collected materials for re-use or to recycling commodity markets

Calculation of % is based on methodology defined in Management of Recovered Products section.

DEPOSIT RECEIVED AND REFUNDS PAID OF CANS

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference
Deposits Received:	7. Product Sold and Collected and Recovery Rate Table 7 on Page 13
Cans:- \$65,518,973	
ISB: - \$4,051,361	
Non-ISB Refillable Bottles - \$1,826,218	
Refunds Paid:	
Cans: - \$57,297,984	
ISB - \$3,513,763	
Non-ISB Refillable Bottles - \$1,383,265	



The following evaluation criteria were applied to the assessment of the description of total amount of deposits received and refunds paid of cans, ISB and non-ISB as required under Section 8(2)(f)(i):

1. The deposits received are based on funds received from LDB by BRCCC during the period from January 1, 2018 to December 31, 2018 recorded in the general ledger of BRCCC.
2. The refunds paid are based on payments to collection facilities during the period from January 1, 2018 to December 31, 2018 recorded in the general ledger of BDL.