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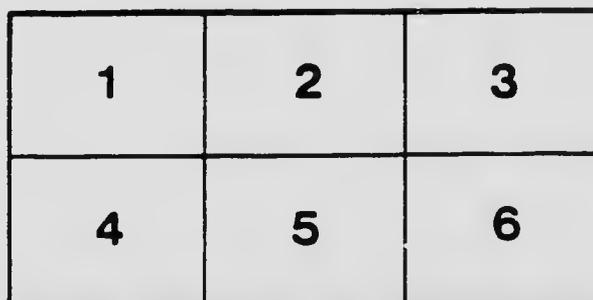
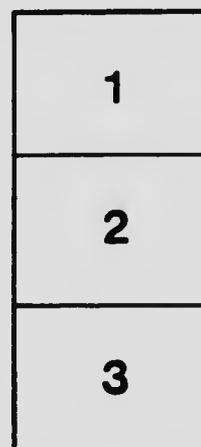
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LABORATORY  
OF THE  
INLAND REVENUE DEPARTMENT

—  
BULLETIN No. 92  
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DISTILLED LIQUORS

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LABORATORY  
OF THE  
INLAND REVENUE DEPARTMENT

BULLETIN No. 92.

DISTILLED LIQUORS

OTTAWA, November 25, 1903.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to transmit herewith inclosed a report by Mr. McGill on the samples of distilled liquors which were collected in accordance with your instructions of August 11 last. The report is accompanied by a tabulated statement which describes the origin of the samples and the results obtained in their examination.

I am, sir, your obedient servant,

THOMAS MACFARLANE,  
*Chief Analyst.*

OTTAWA, October 31, 1903.

THOMAS MACFARLANE, Esq., F.R.S.C., &c.,  
Chief Analyst.

SIR,—I beg to hand you my report on 216 samples of liquors. These consist of the following:—

Rye whiskey . . . . .	91	Samples.
White " . . . . .	30	"
Scotch " . . . . .	24	"
Irish " . . . . .	2	"
Gin . . . . .	27	"
Rum . . . . .	12	"
Brandy . . . . .	30	"
	216	"

No deleterious substances have been found in any of these samples.

In accordance with special instructions, I have made examination for alkaloids in all whiskey samples having less than 75 per cent proof strength. A negative result was obtained in every case.

The principal adulterant is water. In order to enable me to say whether or not a sample may be styled 'adulterated' from dilution with water, it is necessary to recognize some standard strength for alcohol. The British 'Sale of Food Amendment Act' of 1879 fixed the minimum limit strength for gin at 65 per cent, and that for brandy, rum and whiskey at 75 per cent of proof spirit.

Although these limits are not legally recognized in Canada, I have used them (in the absence of any other standard) for purposes of comparison.

The following summary will show, at a glance, the result of their application:—

Kind.	Total Number of Samples.	Above Standard Strength.	Below Standard Strength.	PERCENTAGE.	
				Above.	Below.
Rye whiskey.....					
White ".....	91	25	66	27.5	72.5
Scotch ".....	30	3	25	7.0	83.0
Irish ".....	24	22	2	92.0	8.0
Gin.....	2	2	0	100.0	0.0
Rum.....	27	19	8	70.0	30.0
Brandy.....	12	11	1	92.0	8.0
	30	25	5	83.0	17.0

From this table it appears that the liquors most tampered with are those which are most in demand, viz:—whiskey (rye and malt) and gin.

The last examination of liquors of this character made by me was in 1891,\* and it is interesting to compare the results then obtained with those shown in the above table. This I have done in the subjoined table, where percentage numbers are used.

Kind of Liquor.	Collection of 1903.			Collection of 1891.		
	Number Examined.	Above Standard.	Below Standard.	Above Standard.	Below Standard.	Number Examined.
Rye whiskey.....	91	27.5	72.5	23.0	77.0	61
White ".....	30	17.0	83.0	12.0	88.0	33
Scotch ".....	24	92.0	8.0	77.0	23.0	22
Irish ".....	2	100.0	0.0	80.0	20.0	10
Gin.....	27	70.0	30.0	100.0	0.0	19
Rum.....	12	92.0	8.0	86.0	14.0	13
Brandy.....	30	83.0	17.0	84.0	16.0	24

Except in the case of gin and brandy the above comparison shows a decided improvement in the quality of these spirits in the interval of twelve years. Gin shows a noteworthy falling off in spirit strength.

The term 'spirit gravity' is used in the tables to signify the gravity which the liquor would have, provided that nothing else than alcohol and water were present. Of course the original gravity of the liquor is always higher than the spirit gravity, from the presence in it of matter in solution (sugar, caramel, tannins, glycerine, &c.) having a density higher than water.

In calculating the percentage of alcohol (and proof spirit) from the 'spirit gravity,' the tables of O. Hehner have been used. These tables are sanctioned by the excise regulations of our own country, as well as in England, Germany and elsewhere.

I may add that the furfural test, and the production of a distinct turbidity (opalescence) on addition of water to the distillate, are the chief means we possess for discriminating between a liquor which has been produced by direct distillation from the 'mash,' and one which has been manufactured by reducing rectified spirit with water to the desired strength, and further addition of flavouring or colouring matter. Scotch and Irish whiskies, gin, rum and brandy are liquors of the first type (sometimes spoken of as pot-still spirits). Rye whiskey and white whiskey (malt whiskey) are usually manufactured from rectified spirit.

Fuller details regarding this aspect of the question are given in Bulletin 27 of this series.

I have received valuable assistance in carrying out this investigation from Mr. Lemoine and Mr. Valin.

I have the honour to be, sir, your obedient servant,

A. MCGILL.

\* Bulletin 27.

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INSPECTION OF RYE WHISKEY—

Date of Collection	Nature of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.	Number of Sample.
Aug. 27.	Rye Whiskey	M. J. Foley, Souris, P.E.I.	Sullivan & Co., St. John, N.B.	4371
Sept. 8		Kelley & Glassey, Halifax, N.S.	Gooderham & Worts, Toronto, Ont.	20335
" 9		J. Hogan, Halifax, N.S.	Unknown	20340
" 19		J. McIntosh, Kentville, N.S.	H. Walker, Walkerville	20383
Aug. 22.	'Imperial'	Henry Finnegan, St. John, N.B.	"	17938
" 24.	'Seagram's Canadian.'	McIntyre & Comeau "	Seagram Distillery, Waterloo, Ont.	17939
" 25		C. H. Fairweather, Sussex, N.B.	H. Corby, Belleville, Ont.	17942
" 26.		P. Gallagher, St. John, N.B.	Wm. Marshall, Hamilton, Ont.	17948
Sept. 8		Frank Smith, St. Stephen, N.B.	H. Walker & Sons, Walkerville, O.	17961
" 10.		P. D. Bourgoin, Grand Falls, N.B.	"	17967
Aug. 28.		A. Caron, Rimouski	Wiser, Prescott, Ont.	24508
" 29.		J. W. Anctil, Rivière du Loup	N. Rioux, Quebec	24506
" 31.		Daniels & Cie.	J. Baillargeon, Quebec	24507
" 31.		Tetô Frères, Montmagny, Que.	H. Walker, Walkerville	24508
Sept. 1		A. G. Lambert, Lévis, Que.	Whitehead & Turner, Quebec	24510
" 1		A. W. Couture	"	24512
" 3.		J. H. Lessard, Thetford, Que.	Walker's	24516
" 5.		A. Trudeau, C. Atcook, Que.	"	24518
" 16.		Alex. Berrique, Lachute Mills	F. X. St. Charles, Montreal	24520
" 17.		P. Simard, St. Jérôme	Gooderham & Worts, Toronto	24522
" 17.		Ed. Langlois	P. Simard, St. Jérôme	24524
Aug. 18.		Desjardin & Co., 65 Commissioners St., Montreal	D. Lariverre & Co.	21323
		Louis Payette & Co., 125 Commissioners St., Montreal	L. O. Wilson & Co.	21324
Aug. 18.		T. N. Laganier, 11 Commissioners St., Montreal	L. Chaput, Fils & Co., Montreal	21327
" 20.		Joseph Valiquette, Montreal	Purchased with other stock from J. Oiseau	21334
" 20.		T. Brisson, 139 Commissioners St., Montreal	Not given	21336
" 20.		A. Charboneau, 12 William St., Montreal	L. Chaput & Co.	21337
" 20.		E. Gauvreau, 185 Commissioners St.	Blended by vendor	21341
" 21.		J. Fraul, 133 Commissioners St.	Boivin, Wilson & Co.	21343
" 21.		Émile Déglise, 522 LaGauchetière St.	F. X. St. Charles, Montreal	21346
" 21.		Dame & Frère, 1356 DeMontigny St.	L. Chaput et Fils, Montreal	21348
" 21.		Thos. Barry, 864 St. Dominique St.	"	21349
		D. 573 Marie Anne	Laporte, Martin & Co., Montreal	21351
		Oscar Rivet, 2304 Notre Dame St.	Not given	21353
Aug. 21.		Mde. Lapierre, 3735 Notre Dame St., St. Cuneonde.	Laporte, Martin & Co., Montreal	21356
" 21.		J. Neveu, Notre Dame St., St. Henri.	Not given	21357
		V. Boileau, 836 St. Catherine St.	Bottled by vendor	21360
Aug. 26.		E. Kennedy, Smith's Falls, Ont.	J. P. Wiser	21436
" 26.		McDermott & McCarthy, Prescott.	Bottled by vendor	21442
" 27.		Antoine Wendling, Brockville	Taken from bottle as served at bar	21440
" 31		E. Halliday, Kingston, Ont.	"	21443
" 31.		Thos. J. Leahy "	Meagher Bros., Montreal	21446
" 31.		Jas. McParland "	Gooderham & Worts, Toronto	21447
" 31.		J. Halligan "	Bottled by vendor	21449
" 31.		Rigney & Hickey "	"	21461
" 31.		C. McLean "	Taken from vessel in bar. Seagram's	21453
Aug. 31.		Chas. Lyon, Kingston	Taken from vessel in bar, Seagram's	21454

Tabulated Statement.

RESULT OF ANALYSIS.							Observations.
Specific Gravity of Sample.	Spirit Gravity	Difference.	Fixed Matter.	Alcohol.		Proof Spirit.	
				Weight.	Volume.		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
9404	9441	0023	.....	37.61	44.73	72.30	Above British standard strength in alcohol by 3.30 percent proof spirit.
9500	9484	0016	2.400	35.30	42.17	73.91	Below " " 1.06 " "
9477	9444	0033	4.200	37.44	44.55	78.07	Above " " 3.07 " "
9623	9615	0008	1.720	27.57	33.30	56.53	Below " " 16.47 " "
9438	9429	0009	1.680	38.28	46.??	79.68	Above " " 4.68 " "
9474	9432	0042	0.320	38.11	45.28	79.36	" " " " 4.36 " "
9591	9573	0018	1.580	29.67	35.81	62.76	Below " " 12.24 " "
9692	9593	0009	1.720	29.00	35.05	61.42	" " " " 13.58 " "
9529	9523	0006	1.260	33.29	39.94	60.99	" " " " 5.01 " "
9444	9429	0015	1.700	38.28	45.47	79.68	Above " " 4.68 " "
9529	9520	0009	3.500	33.47	40.14	70.34	Below " " 4.66 " "
9561	9543	0018	2.700	32.06	38.53	67.55	" " " " 7.45 " "
9707	9682	0025	3.940	22.69	27.68	48.50	" " " " 26.50 " "
9527	9509	0018	2.100	34.10	40.84	71.58	" " " " 3.42 " "
9544	9538	0006	0.900	32.37	38.80	68.17	" " " " 6.83 " "
9606	9598	0008	2.540	29.33	35.43	62.09	" " " " 12.91 " "
9484	9480	0004	1.000	35.50	42.40	74.30	" " " " 0.70 " "
9635	9622	0013	1.780	27.07	32.81	57.51	" " " " 17.49 " "
9483	9453	0030	2.500	36.94	44.00	77.10	Above " " 2.10 " "
9473	9450	0023	2.420	37.11	44.18	77.42	" " " " 2.42 " "
9496	9484	0012	2.390	35.30	42.17	73.91	Below " " 1.09 " "
9689	9684	0005	0.800	22.54	27.49	48.18	" " " " 26.82 " "
9666	9656	0010	1.220	24.69	30.04	52.64	" " " " 22.36 " "
9701	9694	0007	1.86	21.77	26.58	46.59	" " " " 28.41 " "
9639	9620	0019	1.740	26.60	32.27	56.55	" " " " 18.45 " "
9703	9699	0004	0.660	21.38	26.13	45.79	" " " " 29.21 " "
9708	9699	0009	1.640	21.38	26.13	45.79	" " " " 29.21 " "
9694	9689	0005	1.460	22.15	27.04	47.39	" " " " 27.61 " "
9603	9597	0006	1.200	28.75	34.76	60.91	" " " " 14.09 " "
9660	9652	0008	1.220	25.00	30.40	53.27	" " " " 21.73 " "
9610	9591	0019	1.200	29.13	35.20	61.69	" " " " 13.31 " "
9548	9531	0017	1.540	32.81	39.40	69.04	" " " " 5.96 " "
9589	9580	0009	1.380	29.87	36.04	63.17	" " " " 11.83 " "
9612	9602	0010	2.100	28.44	34.40	60.28	" " " " 14.72 " "
9696	9679	0017	1.080	22.02	27.05	48.98	" " " " 26.02 " "
9680	9662	0028	3.280	24.23	29.49	51.69	" " " " 23.31 " "
9646	9638	0008	1.020	26.00	31.57	55.32	" " " " 19.68 " "
9553	9542	0011	2.280	32.12	38.60	67.67	" " " " 7.33 " "
9616	9611	0007	1.640	27.86	33.73	59.11	" " " " 15.89 " "
9484	9476	0008	1.30	35.70	42.62	74.68	" " " " 0.32 " "
9481	9475	0006	1.360	35.75	42.67	74.78	" " " " 0.22 " "
9511	9492	0019	4.440	34.90	41.74	73.14	" " " " 1.86 " "
9476	9465	0011	2.720	36.28	43.26	75.80	Above " " 0.80 " "
9569	9554	0015	1.340	31.37	37.76	66.18	Below " " 8.82 " "
9470	9460	0010	2.620	36.06	43.01	76.34	Above " " 1.34 " "
9629	9608	0021	1.960	28.06	33.97	59.63	Below " " 15.47 " "
9517	9509	0008	2.44	34.10	40.84	71.58	" " " " 3.42 " "

## INSPECTION OF RYE WHISKEY—

Date of Collection.	Nature of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.	Number of Sample.
Sept. 2.		D. Smith, Market Sq., Hamilton	Murray & Lottridge, Hamilton	23201
" 2.		Chas. Schweiger	Not given	23203
" 2.		P. J. Galvin	"	23205
" 2.		Hazell & Sons, King St.	Bottled by vendor	23207
" 2.		J. O. Carpenter	"	23208
" 3.		John Mathers, 152 King West, Toronto.	"	23210
" 3.		Geo. Stram, 252 King West, Toronto.	Kept on draught in bar	23212
" 3.	Fine Old Canadian Rye.	E. Morgan, 491 Queen East, Toronto.	Bottled by vendor	23213
"		C. E. Varison, 543 Queen East, Toronto.	"	23216
Sept. 3.		M. Wade, 502 Portland St., Toronto.	Kept on draught	23217
" 3.		T. Reynolds, 837 Queen East, Toronto.	Bottled by vendor	23220
Aug. 20.		Thos. J. Bell, Clinton, Ont.	Hiram Walker, Walkerville, Ont.	23111
" 25.		W. W. Sault, Goderich	Lucas, Steele & Bristow, Hamilton	23113
" 25.		Jeremiah Miller, Harrison, Ont.	Gooderham & Worts, Toronto	23128
" 25.		John Garbet	Joseph Seagram, Waterloo	23129
" 25.		Richard Handly, Walkerton	"	23133
" 25.		Louis Plaff, Mount Forest	Gooderham & Worts, Toronto	23137
Sept. 1.		Joseph E. Seagram, Waterloo	Joseph E. Seagram	23146
" 2.		W. G. Bernhart, Galt, Ont.	Royal Distillery, Hamilton	23151
" 2.		John Stockfish, Preston, Ont.	Joseph E. Seagram, Waterloo	23152
" 2.		Joseph Weyper, Preston	Royal Distillery, Hamilton	23153
"		Harding Bros., Guelph	H. Walker & Son, Walkerville	23154
Sept. 2.		Frank Hall, Guelph, Ont.	H. Walker & Sons, Walkerville	23155
" 2.		E. Dawson, Seaforth	H. Corby, Belleville	23157
Aug. 29.		A. Bernard, Winnipeg	J. E. Seagram, Waterloo, Ont.	23713
" 29.		Paul Sala	H. Walker & Sons, Walkerville, Ont.	23714
" 29.		J. Lemaire	"	23715
" 30.		Belevian & Co.	"	23716
Sept. 3.		S. Demers	G. F. J. Gates, Winnipeg	23717
" 3.		D. Ripsteins	Geo. Vetu, Winnipeg	23719
" 4.		T. D. Cavannagh, Winnipeg	"	23720
" 8.		T. F. Ellis, Red Deer	H. Walker Sons, Walkerville	21746
" 10.		A. Laurandean, Edmonton	Gooderham & Worts, Toronto	21750
" 10.		F. X. Paré & Co., Strathcona	H. Walker & Sons, Walkerville	21758
" 15.		R. J. McKeran	Gooderham & Worts, Toronto	21759
" 15.		J. A. Young, Calgary	Hiram Walker, Walkerville	21762
" 15.		Jas. Doyle	Gooderham & Worts, Toronto	21763
Aug. 25.		W. Jones, Vancouver	Hudson Bay Co., Vancouver	23554
" 25.		T. Roberts	Pither & Leiser, Victoria	23555
" 25.		A. Calore, Europe Hotel, Vancouver.	"	23557
" 25.		Geo. Waring, Nanaimo	Hudson Bay Co., Victoria	23581
" 28.		F. Mondor, St. Boniface	Gooderham & Worts, Toronto	23708
" 21.		T. A. Newman Bros., Portage la Prairie.	"	17487
			"	17487

NOTE.—Of 91 samples of rye whiskey 25 are above standard strength in alcohol, and 66 are below that strength.

All samples below standard strength have been examined for alkaloids. No alkaloids have been found. None of the samples gave reactions for furfural. None of the distillates gave any opalescence on diluting with water.

Tabulated Statement—Continued.

RESULT OF ANALYSIS.							Observations.
Specific Gravity	Spirit Gravity	Difference.	Fixed Matter.	Alcohol.		Proof Spirit.	
				Weight.	Volume.		
P. C.	P. C.	P. C.	P. C.	P. C.	P. C.	P. C.	
9604	9604	0010	1'06	28 94	34 97	61 29	Below British standard strength in alcohol by 13 71 per cent proof spirit.
9632	9621	0011	1'20	27 14	32 00	57 65	" " 17 35 " "
9515	9512	0003	1'14	33 94	40 07	71 27	" " 3 73 " "
9647	9632	0015	1'02	32 75	39 32	68 92	" " 6 08 " "
9652	9542	0010	0 86	32 12	38 60	67 67	" " 7 35 " "
9614	9493	0021	6 04	34 68	41 69	73 05	" " 1 1 " "
954	9638	0016	2 10	26 00	31 57	55 32	" " 13 " "
9483	9465	0018	4 16	36 28	43 26	75 80	Above " 0 80 " "
9477	9460	0008	2 26	36 06	43 01	75 37	" " 0 37 " "
9683	9597	0006	2 58	28 75	34 76	60 91	Below " 14 09 " "
9653	9636	0017	1 84	26 13	31 72	55 59	" " 19 41 " "
9584	9577	0007	1 14	30 06	36 26	63 55	" " 11 45 " "
9584	9480	0004	1 08	35 50	42 40	7 30	" " 0 70 " "
9642	9621	0021	2 82	27 14	32 90	57 65	" " 17 35 " "
9492	9450	0032	5 46	37 11	44 18	77 42	Above " 2 42 " "
9575	9573	0002	0 140	30 28	36 51	63 99	Below " 11 01 " "
9472	9466	0006	2 740	36 22	43 19	75 70	Above " 0 70 " "
9485	9474	0011	1 920	35 80	42 73	74 88	Below " 0 12 " "
9607	9600	0007	2 12	28 56	34 54	60 53	" " 14 47 " "
9474	9460	0014	1 90	36 56	43 56	76 34	Above " 1 34 " "
9600	9603	0006	2 06	28 37	34 33	60 16	Below " 14 84 " "
9477	9470	0 067	1 12	36 00	42 96	75 26	Above " 0 26 " "
9496	9480	0016	0 96	35 50	42 49	74 30	Below " 0 70 " "
9604	9596	0008	2 00	28 81	34 83	61 04	" " 13 96 " "
9591	9575	0016	4 88	30 17	36 39	63 77	" " 11 23 " "
9492	9485	0007	1 22	35 25	42 12	75	" " 1 19 " "
9607	9600	0007	0 90	28 56	34 54	60	" " 14 47 " "
9579	9560	0019	1 32	31 00	37 34	65	" " 5 87 " "
9528	9520	0008	2 16	33 47	39 14	70 14	" " 4 66 " "
9475	9463	0012	2 60	36 39	43 38	76 02	Above " 1 02 " "
9703	9689	0014	2 78	22 15	27 04	47 39	Below " 27 61 " "
9443	9435	0008	1 56	37 94	45 16	79 04	Above " 4 04 " "
9475	9466	0009	2 44	36 22	43 19	75 70	" " 0 70 " "
9510	9498	0012	1 11	34 62	41 52	72 59	Below " 2 41 " "
9485	9464	0021	2 11	36 33	43 32	75 91	Above " 0 91 " "
9626	9509	0017	30 06	34 10	40 84	71 58	Below " 3 42 " "
9487	9468	0021	2 53	30 22	43 19	75 70	Above " 0 70 " "
9485	9477	0008	1 48	35 65	42 56	74 59	Below " 0 41 " "
9479	9453	0026	2 60	36 94	44 00	77 10	Above " 2 10 " "
9479	9463	0016	1 86	36 39	43 38	76 02	" " 1 02 " "
9480	9463	0026	2 42	36 39	43 38	76 02	" " 1 02 " "
9483	9460	0023	2 40	36 56	43 56	76 34	" " 1 34 " "
9477	9467	0010	2 28	36 17	43 13	75 59	" " 0 59 " "
9494	9480	0014	1 10	35 50	42 40	74 30	Below " 0 70 " "

The solid (fixed) matter in solution varies from 0 14 to 30 08 parts per 1,000. (Weight in volume.) It averages about 2 parts per 1,000 (= 0 2 per cent), and instances of great variation from this number are exceptional.

The solid matter is essentially tannins and caramelized sugar. No deleterious substances have, in any case, been found.



Tabulated Statement.

RESULT OF ANALYSIS.							Observations.
Specific Gravity of Sample.	Spirit Gravity	Differ-ence.	Solids, Parts per thousand	Alcohol.		Proof Spirit.	
				Weight.	Volume.		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
9464	9411	0025	.....	37.61	44.73	78.39	Above British standard strength in alcohol by 3.39 per cent of proof spirit.
9547	9540	0007	0.32	32.25	38.75	67.92	Below " " 7.08 " " "
9582	9577	0005	0.64	30.06	36.26	63.55	" " 11.45 " " "
9647	9641	0006	0.26	25.79	31.32	54.88	" " 20.12 " " "
9620	9617	0003	0.14	27.43	33.23	58.24	" " 16.76 " " "
9696	9694	0002	0.06	21.77	26.58	46.59	" " 28.41 " " "
9654	9652	0002	0.12	25.00	30.40	53.27	" " 21.73 " " "
9681	9681	0000	0.08	22.77	27.77	48.66	" " 26.34 " " "
9618	9614	0004	0.06	27.64	33.48	58.67	" " 16.33 " " "
9682	9681	0001	0.22	22.77	27.77	48.66	" " 26.34 " " "
9759	9753	0006	0.10	17.00	20.89	36.60	" " 38.40 " " "
9701	9697	0004	0.40	21.54	26.31	46.11	Lowest spirit strength.
9702	9700	0002	0.08	21.31	26.04	45.63	" " 28.89 " " "
9689	9685	0004	0.12	22.46	27.40	48.02	" " 29.37 " " "
9730	9728	0002	0.24	19.00	23.28	40.80	" " 26.98 " " "
9587	9586	0001	0.08	29.47	35.58	62.36	" " 34.20 " " "
9421	9389	0032	10.06	40.35	47.72	83.64	Above " " 12.64 " " "
9476	9473	0003	0.15	35.85	42.78	74.97	Below " " 8.64 " " "
9467	9465	0002	0.06	36.23	43.26	75.80	Highest spirit strength.
9631	9615	0016	3.86	27.57	33.39	58.53	Above " " 0.03 " " "
9530	9509	0021	2.80	34.10	40.84	71.58	Below " " 0.80 " " "
9500	9491	0006	0.16	34.81	41.63	72.96	" " 16.47 " " "
9519	9518	0001	0.38	33.59	40.27	70.57	" " 3.42 " " "
9480	9460	0020	2.10	36.56	43.56	76.34	" " 2.04 " " "
9567	9551	0016	1.40	31.56	37.97	66.55	Above " " 4.40 " " "
9492	9473	0019	.....	35.85	42.78	74.97	Below " " 1.34 " " "
9723	9722	0001	.....	19.50	23.88	41.85	" " 8.45 " " "
9449	9429	0020	5.84	38.28	45.47	79.68	" " 0.03 " " "
9677	9677	0000	0.16	23.08	28.13	49.30	Above " " 33.15 " " "
9647	9645	0002	0.16	25.50	30.98	54.30	Below " " 4.68 " " "
							" " 25.70 " " "
							" " 20.70 " " "

No alkaloids have been found in any sample. more than 10 per cent below, while 13 samples are more than 20 per cent below standard.

WHISKEY.

9435	9407	0028	2.80	39.45	46.75	81.93
9101	9087	0014	0.94	54.14	61.98	108.62

distillate with water.

## INSPECTION OF SCOTCH WHISKEY--

Date.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Name of Brand.	Number of Sample.
1903.				
Sept. 8.	Kelly & Glassey, Halifax.	Sheriff & Co., Scotland		20337
" 9.	T. H. Renner, Halifax.	McPherson & Co., Scotland.	Fernbank***	20339
" 10.	James Scott & Co., Halifax.	Bullock Lade, Scotland.		20344
" 10.	C. D. Norton, Halifax.	Cameron & Co., Scotland.		20345
" 10.	T. F. Courtney & Co., Halifax.	Bullock Lade, Scotland.		20347
" 11.	T. Pearson, Halifax.			20350
" 10.	Town of Bridgewater, Bridgewater	J. Buchanan & Co	The Buchanan Blend	20375
Aug. 21.	Byrne Bros., Charlottetown	Cowan & Co., Glasgow		4353
" 24.	A. McDonald, Charlottetown	Bullock, Lade & Co., Scotland.		4358
" 25.	P. N. Enman, Sunnyside.	Haigge & Haigge, St. John, N. B.		4365
" 21.	McIntyre & Comeau, St. John, N. B.	M. B. Foster & Sons, London and Glasgow	Bugle brand	17932
" 21.	R. Sullivan & Co., St. John, N. B.	Mackie & Co., Ltd., Glasgow		17934
" 26.	A. E. Holstead, Moncton, N. B.	Wright & Greig, Glasgow.	Premier	17947
Sept. 12.	McDonald & Heeney, Fredericton.	James Buchanan & Co., Glasgow, Scotland.		17975
Aug. 18.	E. Delcourt, 38 St. Paul St., Montreal.	J. Townsend, Montreal.		21329
" 20.	E. Gauvreau, 185 Commissioner St., Montreal.	Blended by vendor		21342
" 31.	Thos. J. Leahy, Kingston, Ont.	Mitchell's		21445
Sept. 10.	J. Diamond, Edmonton.	Hugh McKinnon, Glasgow, Scotland.		21752
Aug. 25.	C. Anderson, Vancouver.	J. Dewar, Scotland.		23552
" 25.	R. Asbeith, Vancouver.	White & McKay, Scotland.		23556
Sept. 2.	J. Mahrer, Nanaimo.	J. Watson & Co., Dundee, Scotland.		23582
" 6.	Faith & Seeley, New Westminster.	Pither & Lerser, Victoria.		23592
				4354
				22159

NOTES.—1. A furfural reaction was obtained, more or less distinctly, with all samples of Scotch proof (= B. 30 under proof). 3. The average fixed matter in solution is 1.54 per thousand

## Tabulated Statement.

RESULT OF ANALYSIS.							Observations.
Specific Gravity	Spirit Gravity	Differ-ence.	Solids Parts per 1,000.	Alcohol.		Proof Spirit.	
				Weight.	Volume		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
9402	9391	0011	2.48	40.25	47.62	83.45	No opalescence on dilution of distillate. No opalescence on dilution of distillate.
9392	9394	0008	0.48	40.60	47.99	84.11	
9475	9457	0018	2.60	38.72	43.75	76.67	
9435	9430	0005	0.74	38.22	45.41	79.57	
9384	9376	0008	1.58	41.00	48.43	84.87	Below standard strength in alcohol.
9587	9568	0019	4.14	30.56	36.83	64.54	
9381	9374	0007	1.60	41.10	48.54	85.06	
9432	9427	0005	0.72	38.30	45.59	79.89	
9238	9223	0015	1.36	48.14	55.93	98.01	
9384	9377	0007	1.16	40.95	48.37	84.77	
9425	9422	0003	0.54	38.67	45.89	80.43	
9381	9366	0015	2.04	41.50	48.97	83.81	
9415	9403	0012	1.36	39.65	46.97	82.31	
9389	9377	0012	1.70	40.95	48.37	84.77	
9494	9488	0006	0.80	35.10	41.95	73.52	
9262	9243	0019	2.64	47.23	54.99	96.39	
9264	9260	0004	0.82	46.46	54.19	94.97	
9140	9130	0010	1.60	32.23	60.07	105.27	
9111	9105	0006	0.62	53.35	61.19	107.23	
9258	9246	0012	2.56	47.09	54.85	96.12	
9170	9163	0007	1.02	50.83	58.67	102.82	No opalescence on dilution of distillate. Furfural reaction doubtful.
9399	9385	0014	3.02	40.55	47.94	84.02	
9425	9416	0009	0.92	39.00	46.28	81.07	
9377	9374	0003	0.42	41.10	48.54	85.06	

Whiskey, except No. 2358.

(= 0.154 per cent weight in volumes).

2. The average spirit strength of these samples is 86.70 per cent of

## INSPECTION OF GIN—

Date.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Number of Sample.
Aug. 25.	J. D. Gourlay, Sunnyside, P.E.I.	Beale & Co., St. John, N.B.	4364
Sept. 10.	Jas. Scott & Co., Halifax, N.S.	Heukes, Holland, bottled by vendor.	20348
" 10.	T. F. Courtenay & Co., Halifax	" "	20346
" 18.	Town of Bridgewater, N.S.	" "	20376
Aug. 22.	J. D. Regan, St. John	John De Kuyper & Son, Rotterdam	17985
" 28.	R. H. Armstrong, Newcastle, N.B.	Blankensign & Nolet, Rotterdam	17981
Sept. 10.	C. Curlen, Grand Falls, N.B.	John De Kuyper & Son	17966
" 12.	John M. Wiley, Fredericton	John D. Regan, St. John, N.B.	17974
" 1.	Raymond Bilodeau, Levis, Que.	Carrière et fils, Levis	24511
" 16.	Victor Lefevre, Lachute	Nap. Carrière, Lachute	24521
Aug. 18.	J. Colas, Montreal	L. A. Wilson & Co., Montreal	21321
" 18.	Desjardin & Co., Montreal	D. Larivière & Co., Montreal	21322
" 18.	T. N. Laganière, Montreal	L. Chaput, fils & Co., Montreal	21326
" 18.	Mrs. D. Racine, Montreal	L. D. Wilson & Co.	21333
" 20.	Mrs. M. Murphy, Montreal	Blended by vendor	21338
" 20.	Alex. Boivin, Montreal	Boivin, Wilson & Co.	21345
" 21.	A. U. Monast, Montreal	A. Fobitaille, Montreal	21352
" 21.	P. N. Thibault, Montreal	Hudon, Hebert & Co., Montreal	21355
" 22.	E. Menard, Montreal	Boivin, Wilson & Co.	21359
" 31.	E. Halliday, Kingston	"	21444
Sept. 2.	D. Smith, Hamilton	"	23202
" 2.	Hazell & Sons, Hamilton	Bottled by vendors	23206
" 3.	E. Morgan, Toronto	Kept on draught	23214
" 1.	Wm. Metcalfe, Berlin	Bordin & Watson, Montreal	22143
Aug. 28.	G. Lal.	Richard & Co., Winnipeg	23710
" 29.	Richard & Co., Winnipeg	John De Kuyper, Holland	23711
			21441

NOTES.—All the above samples of gin, excepting No. 23710, gave distinct reactions for furfural and a (Great Britain) fixed the minimum limit of spirit strength for gin at 65 per cent of proof. This is the examined for alkaloids. No alkaloids have been found in any sample. The average spirit strength found spirit strength is 47.70 per cent of proof.

Tabulated Statement.

RESULT OF ANALYSIS.							Observations.
Specific Gravity	Spirit Gravity	Difference.	Solids Parts per 1000.	Alcohol.		Proof Spirit.	
				Weight.	Volume		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
9262	9257	0005	0.12	46.50	54.33	95.22	
9443	9436	0007	0.14	42.95	50.52	88.53	
9326	9316	0010	0.60	43.90	51.53	90.30	
9476	9473	0003	0.10	35.85	42.78	74.97	
9420	9418	0002	0.06	38.89	46.14	80.86	
9445	9436	0009	0.88	37.89	45.04	78.93	
9225	9222	0003	0.36	48.18	55.97	98.09	
9217	9214	0003	0.10	48.55	56.35	98.75	
9327	9321	0006	1.14	33.41	40.07	70.23	
9506	9501	0005	0.16	34.48	41.26	72.31	
9660	9656	0004	0.24	24.69	30.04	52.64	
9545	9540	0005	0.20	32.25	38.75	67.92	Below British standard strength in alcohol.
9615	9613	0002	0.38	27.71	33.56	58.82	
9550	9544	0006	0.38	32.00	38.47	67.42	
9595	9591	0004	0.18	29.13	35.20	61.69	
9682	9679	0003	0.12	22.92	27.95	48.98	
9611	9687	0004	0.20	22.31	27.22	47.70	Much "
9573	9570	0003	0.36	30.44	36.70	64.32	" "
9664	9660	0004	0.24	23.92	29.13	51.00	" "
9350	9342	0008	0.22	42.67	50.21	88.00	
9338	9336	0002	0.14	42.95	50.52	88.53	
9336	9320	0016	1.34	43.71	51.32	89.95	
9506	9491	0009	0.40	34.95	41.72	73.24	
9429	9426	0003	0.20	38.44	45.65	80.00	
9789	9676	0113	30.16	23.15	23.22	49.46	
9326	9316	0010	0.64	43.90	51.53	90.30	'Old Tom Gin,' below British standard in alcohol.
9475	9470	0005	0.12	36.00	42.95	75.26	

turbidity (opalescence) on dilution of the distillate with water. The Sale of Food Amendment Act of 1879 standard referred to in the marginal notes. All samples below 65 per cent of spirit strength have been for 27 samples of gin is 74.97 per cent. The highest spirit strength is 98.91 per cent of proof. The lowest

## INSPECTION OF RUM—

Date of Collection	Nature of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.	Number of Sample.
Aug. 22	Jamaica Rum	G. E. Hughes, Charlottetown	L. A. Wilson, Montreal	4356
" 27	Demerara Rum	M. J. Foley, Souris, P.E.I.	R. Sullivan & Co., St. John, N.B.	4366
Sept. 8	"	Kelley & Glussey, Halifax, N.S.	Saunback & Parker, Demerara, B.W.I.	20336
" 9	Jamaica Rum	P. Donahue & Sons	Unknown	20342
" 11	Demerara Rum	A. L. Miller	"	20349
" 21	"	M. H. Townsend, Kentville, N.S.	T. F. Courtney, Halifax	20384
" 22	"Golden Glow," Jamaica Rum	John D. Regan, St. John, N.B.	J. Brown & Co., London, Eng.	17936
" 2	"	M. Thibaudeau, Quebec	Ledroit Frères, Quebec	24514
" 3	Rum	Hardmarsh & Martin, Nanaimo, B.C.	Pither & Leiser, Victoria, B.C.	23580
" 3	"	J. Mahrer, Nanaimo, B.C.	J. D. Watson & Co., Dundee, Scot.	23583
" 4	"	Mrs. Stevens, Ladysmith	Hudson Bay Co., Victoria, B.C.	23585
"	"	Reuben Elley, New Westminster	" Vancouver	23591

NOTE.—All the above samples of rum gave reaction for furfural; and the distillates, on dilution with water, became distinctly opalescent.

The average strength for 12 samples of rum is 97.14 per cent. of proof spirit.

The average amount of solid matter in solution is 6.53 grammes per litre, or 0.653 per cent (weight in volume).

## Tabulated Statement.

RESULT OF ANALYSIS.							Observations.
Specific Gravity of Sample.	Spirit Gravity.	Difference	Solids in Solution.	Alcohol.		Proof Spirit.	
				Weight.	Volume.		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
9526	9509	0017	3.30	34.10	40.84	71.58	Lowest spirit strength found.
9392	9364	0028	4.74	41.60	49.07	86.00	
9363	9332	0031	9.06	43.14	50.72	88.88	
9380	9362	0018	5.74	41.70	49.18	86.18	
9480	9450	0030	5.88	37.11	44.18	77.42	
9247	9232	0015	3.74	47.73	55.51	97.27	
9407	9382	0025	6.18	40.70	46.10	84.30	
8933	8878	0055	12.08	63.35	70.85	124.16	
8991	8966	0025	7.00	59.57	67.28	117.90	
8812	8773	0039	6.00	67.83	74.97	131.38	
9322	9297	0025	5.20	44.77	52.44	91.90	
9145	9112	0033	9.42	53.04	60.89	106.71	

The maximum solids = 12.08 grammes per litre.  
 The minimum " = 3.30 " "  
 This solid matter is chiefly caramelized sugar.

## INSPECTION OF BRANDY—

Date of Collection	Nature of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.	Number of Sample.
Aug. 21.	Brandy	Byrne Bros., Charlottetown	Archangeand Freres, France	4352
" 21.	"	A. W. Reddin	Cognac Distillery Assn.	4357
Sept. 8.	"	Kelley & Glassey, Halifax	Rouger Guillet & Co.	20338
" 9.	"	Dillon Bros.	Gerrard & Co.	20341
" 11.	"	G. Verdi	Unknown	20348
Aug. 21.	"	C. N. Beale & Co., North Wharf, St. John.	Boutelleau & Co., Barbezein near Cognac, France.	17933
" 29.	"	Henry White, Bathurst, N.B.	Meagher Bros. & Co., Montreal.	17955
Sept. 11.	"	J. E. Sheasgreen, Woodstock, N.B.	Evans Sons & Co., Ltd.	17970
Aug. 31.	"	J. N. Anctil, Rivière du Loup	L. A. Wilson	24504
" 31.	"	N. Fournier, Montmagny	Carrière & fils, Lévis, Que.	24509
Sept. 2.	"	A. Parent, Quebec	J. Baillarguon, Quebec	24515
" 5.	"	J. R. Roy, Coaticook	Walker	24519
" 2.	"	C. E. Laffanme, St. Jérôme	L. Chaput et fils, Montreal.	24523
Aug. 18.	"	Mrs. A. Racine, 99 St. Paul St., Montreal.	L. A. Wilson & Co.	21332
" 21.	"	Joseph Boyer, 133 St. Dominique, Montreal.	F. X. St. Charles	21347
" 21.	"	Rigney & Hickey, Kingston	Bottled by vendor	21452
" 31.	"	T. H. Pelou, Kingston	"	21455
Sept. 2.	"	Chas. Schwenger, Hamilton	Not given	23204
" 3.	"	C. E. Vardon, 543 Queen East, Toronto.	Kept on draught	23215
" 3.	"	T. Reynolds, 837	"	23219
Aug. 24.	"	A. Munroe & Co., Brandon, Man	Champagne Vineyard, Boutelleau, France.	17493
" 29.	"	W. J. Sherman, Winnipeg	"	23712
" 25.	"	C. Johnston, Vancouver, B.C.	Pither & Leiser, Victoria.	23553
" 25.	"	Jos. Nanthwell, Nanaimo	"	23579
Sept. 4.	"	John Tha, Ladysmith, B.C.	Did not know	23584
" 6.	"	J. E. Hughes, New Westminster.	H. Freeman, New Westminster	23588
		The following samples were purchased in Ottawa, Oct. 27, 1963.		
	One Star	Bate & Co.	Own bottling	
	Three Stars	"	"	
	V.O.	"	J. Hennessy & Co.	
	V.S.O.P.	"	J. F. Martell	

## NOTES:—

In 30 samples of brandy the highest alcohol found is 106.23 per cent proof spirit; the lowest is 60.66 per cent proof spirit.

The average spirit strength is 77.62 per cent.

Only 5 samples fall below 75 per cent of proof spirit, and only 2 samples below 70 per cent.

Tabulated Statement.

RESULT OF ANALYSIS.							Furfural reaction.	Opalescence dilution of distillate.
Specific Gravity of Sample.	Spirit Gravity.	Differ-ence.	Solids of Solution	Alcohol.		Proof Spirit.		
				Weight.	Volume			
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
9412	9355	0067	15.54	42.05	49.55	86.84	Decided	Decided.
9169	9156	0013	2.72	51.13	58.07	103.34	"	"
9378	9332	0046	12.40	43.14	50.72	88.88	"	"
9452	9432	0020	5.44	38.11	45.28	79.36	Faint	Faint.
9547	9539	0008	3.28	32.31	38.82	68.04	"	"
9240	9204	0036	13.22	49.00	56.82	99.57	Decided	Decided.
9609	9509	0010	3.14	28.62	34.61	60.66	"	"
9506	9491	0015	4.10	34.95	41.79	73.24	Faint	Faint.
9212	9188	0024	5.04	49.73	57.54	100.85	Decided	Decided.
9387	9308	0079	16.84	44.27	51.91	90.98	"	"
9338	9302	0038	10.52	44.55	52.20	91.48	"	"
9322	9289	0033	15.32	45.14	52.82	92.56	Faint	Faint.
9201	9172	0029	11.80	50.43	58.28	102.12	"	"
9512	9489	0023	4.52	35.05	41.00	73.43	Decided	"
9398	9366	0032	4.76	41.50	48.97	85.81	Faint	"
9211	9187	0024	9.80	49.77	57.59	100.93	Decided	Decided.
9153	9118	0035	11.66	52.77	60.61	106.23	"	"
9180	9147	0033	10.04	51.50	59.34	104.00	Faint	Faint.
9237	9181	0076	24.16	50.04	57.88	101.43	Decided	Decided.
9516	9509	0007	3.06	34.10	40.84	71.58	Faint	None.
9405	9370	0035	4.66	41.30	48.75	85.43	"	Faint.
9223	9168	0055	20.56	50.61	58.45	102.43	Decided	Decided.
9263	9245	0018	5.56	47.14	54.90	96.21	Faint	Faint.
9231	9208	0023	7.28	48.82	56.63	99.24	Decided	Decided.
9481	9457	0024	6.56	36.72	43.75	76.67	"	"
9430	9355	0075	21.18	42.05	49.55	86.84	"	"
9491	9473	0018	2.70	35.85	42.78	74.97	Faint	Faint.
9461	9436	0025	4.76	37.89	45.04	78.93	Decided	Decided.
9394	9366	0028	8.72	41.50	48.97	85.81	"	"
9388	9349	0039	8.07	42.33	49.86	87.37	"	"

The solid matter amounts to 20 grammes per litre in 3 samples.

"	"	"	15	"	"	3	"
"	"	"	10	"	"	6	"
"	"	"	5	"	"	8	"
"	"	is less than	5	"	"	10	"

