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LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA.

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BULLETIN No. 331,

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TURPENTINE, AS A PAINT MATERIAL

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### NOTES AND COMMENTS.

Under this heading, as occasion arises, the Bulletins issued by this Department will contain, as an appendix, such comment as may seem necessary or advisable upon matters relating to the work of the Department in connection with the administration of the Adulteration Act, the Fertilizers Act, the Feeding Stuffs Act or the Proprietary Medicines Act.

It frequently happens that correspondents ask information regarding the above Acts, of such a nature that the matter in question possesses general interest, and comment upon it would prove acceptable and useful to others than the immediate questioner. In such cases the reply may find a place in these columns. For convenience of reference these notes will be numbered in series.

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BULLETIN No. 331

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Turpentine, as a Paint Material

OTTAWA, January 8, 1916.

J. U. VINCENT, Esq.,  
Deputy Minister of Inland Revenue,

SIR,—By an Order in Council of June 6, 1912, Turpentine for uses in the Arts, was defined as follows:—

PRIVY COUNCIL, CANADA.

AT THE GOVERNMENT HOUSE, OTTAWA.

THURSDAY, the 6th day of June, 1912.

PRESENT

HIS ROYAL HIGHNESS THE GOVERNOR GENERAL IN COUNCIL :

His Royal Highness the Governor General in Council, in virtue of the provisions of Section 27 of Chapter 133, Revised Statutes of Canada, 1906, "An Act respecting the Adulteration of Food and other Articles," is pleased to order as follows:—

Turpentine is hereby added to Schedule 4 of the above described Act and the definition thereof shall be as hereinafter set forth:—

STANDARDS FOR TURPENTINE:

I. When turpentine is sold as a drug, for medicinal purposes or to the order of a physician, it shall meet pharmacopoeal requirements as provided by section 7 of the said Act.

II. When turpentine is sold under any other conditions than for purposes of medicine, as above, it shall meet the following requirements:—

- (1) It shall be entirely free from mineral oil.
- (2) Unless sold as wood turpentine, it shall absorb not less than 340 times its weight of iodine (Hubl Solution and Method). If sold as wood turpentine it shall absorb not less than 240 times its weight of iodine by same method.
- (3) The undissolved (unpolymerized) residue on treatment of 10cc with 40cc of a sulphuric acid containing 20 per cent of the fuming acid, shall not exceed 10 per cent by volume of the sample.
- (4) The refractive index of this residue shall be not less than 1.4950 at 20°C.
- (5) The refractive index of the sample at 20°C. shall lie between 1.4680 and 1.4730.
- (6) The specific gravity of the sample at 20°C. shall not be less than 0.860.
- (7) The initial boiling point shall not be lower than 150°C. under ordinary atmospheric pressure.
- (8) At least 75 per cent by volume shall distil below 160°C.
- (9) The residue on evaporation over a steam bath shall not exceed two (2) per cent.

RODOLPHE BOUDREAU,  
*Clerk of the Privy Council.*

No systematic inspection of the article, as thus defined, has been made since the date of the Order in Council as above. An extensive study of the subject was made in 1910, and the results are published in Bulletin No. 211. At that time the only legal standards existent had regard to turpentine (Oil of Turpentine) as a drug; and although many of the samples then reported failed to meet the requirements as given in the British Pharmacopoeia, it was considered inadvisable to apply these very stringent constants to turpentine sold for purposes other than medicinal.

The present inspection embraces careful and, in most cases exhaustive work upon two hundred and twelve (212) samples which were purchased throughout the Dominion in July, August and September of last year; and were specially obtained from dealers in paint materials. They are therefore to be judged by the standards fixed for turpentine supplied for other uses than as a drug. Fifty (50) of these samples fail to meet the above requirements and must be described as adulterated under the Act. (*See note on page 5.*)

A very large number of complaints from users of turpentine have been received in recent years; and the results of this inspection indicate that ample ground for complaint exists. The chief adulterant is found to be a petroleum product; but rosin oil is also used for the purpose.

Wood turpentine, that is the product obtained by distillation from resinous woods, as distinguished from that obtained in the regular way from the gum of various species of pine, cannot be regarded as an adulteration, provided that it is properly described when offered for sale. It possesses in a high degree, the desirable properties of true turpentine, but is not, in every respect, its equal for paint purposes. Samples indicat-

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ing (by their lower iodine number, and other characters) admixture with wood turpentine, have not been judged as adulterated in this report. It must be noted, however, that vendors are not as careful as they should be in properly distinguishing these articles from true (gum) turpentine.

I would respectfully recommend publication of this report as Bulletin No. 331.

I have the honour to be, Sir,

Your obedient servant,

A. MCGILL,  
*Chief Analyst.*

OTTAWA, March 22, 1916.

NOTE.—The term adulteration, as used here, must be understood to mean that the sample does not meet the standards for turpentine fixed by Order in Council of June 6, 1912.

*Section 21* of the Adulteration Act, as this appears in the Revised Statutes of 1906, has been introduced into this Act from an older Act of 1894, entitled "An Act in restraint of Fraudulent Sale or Marking."

*Section 21*, is as follows:—

"No person shall mark, brand or label any article or any package containing any article mentioned in the first column of the fourth schedule to this Act, with the word Pure, Genuine, or any word equivalent thereto, or sell, or offer or expose for sale, any such article or package so marked, branded, stamped or labelled, unless such article or the contents of such package are pure within the meaning of the second column of the said schedule."

It will be noted that, unless the article has been sold as *Pure* or *Genuine*, the penalties imposed by Section 33 (Section 3 of the Act in restraint of Fraudulent Marking) do not apply.

The samples of turpentine herein reported were simply sold as turpentine, and not as pure turpentine or genuine turpentine. It is reasonable to interpret the word turpentine, used simply, as meaning pure or genuine turpentine; but the technical difficulty introduced by the peculiar wording of section 21, makes procedure uncertain, and perhaps unadvisable until such time as an amendment of the Act is secured.

BULLETIN No. 331.—TURPENTINE.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

1913.	Sept. 28	Turpentine.	64256	Wm. Stairs Son & Morrow, Halifax.	1½ pt.	15	Unknown	Carritte Halifax.	Carritte Paterson Co.,
"	28	"	64257	Wm. Robertson & Son, Halifax.	1½ "	15	Georgia Turpentine Co.,	J. C. Calder, Agent, Halifax.	J. C. Calder, Agent, Halifax.
"	28	"	64258	A. M. Bell & Co., Halifax	1½ "	15	"	Montreal.	Mfr.
"	28	"	64259	Jas. Simmonds, Ltd., Halifax	1½ "	15	"	"	J. C. Calder, Agent, Halifax.
"	28	"	64260	Geo. E. Smith & Co., Halifax	1½ "	15	Unknown	"	"

DISTRICT OF NOVA SCOTIA—W. A. PETIPAS, TEMPORARY INSPECTOR.

Aug. 13	Turpentine.	69841	J. S. Fraser, New Glasgow	3 pts	45	Unknown	DeB. Carritte, St. John.
"	13	"	69842 Thompson & Sutherland, Glasgow, New	3 "	38	Imperial Oil Co., Halifax	Mfr.
"	13	"	69843 Bent & Cahoon, New Glasgow	3 "	37	Unknown	DeB. Carritte, St. John.

DISTRICT OF CAPE BRETON—E. F. McKEEN, INSPECTOR.

July 27	Turpentine.	62814	C. F. Moore, Sydney	3 pts.	45	Georgia Turpentine Co., Montreal	
"	27	"	62816 Thompson Sutherland	3 mts.	45	Imperial Oil Co.	

DISTRICT OF CAPE BRETON—E. F. McKEEN, INSPECTOR.

July 27	Turpentine..	63814	C. P. Moore, Sydney.....	3	pts.	45	Georgia Turpentine Co., Montreal.	
" 27	" "	63816	Thompson Sutherland Sydney	3	pts.	45	Imperial Oil Co.	

DISTRICT OF PRINCE EDWARD ISLAND—WM. A. WEEKS, INSPECTOR.

July 15	Turpentine..	60363	Proyse & Son, Murray Harbour, P.E.I.	3	pts.	35		Rogers Hardware Co., Charlottetown.
" 17	" "	60364	S. W. Crabbe, Charlottetown, P.E.I.	3	"	30	Imperial Oil Co., Halifax.	
" 17	" "	60365	Fennell & Chandler, Charlotte- town, P.E.I.	3	"	35		DeB. Carrite, St. John.
" 19	" "	60366	Rogers Hardware Co., Char- lottetown, P.E.I.	3	"	35		"
" 19	" "	60367	P. J. Berrigan, Dunceden, Lot 31, P.E.I.	3	"	35		Rogers Hardware Co., Charlottetown.
" 23	" "	60368	Russell Con, Morell, P.E.I.....	3	"	35	Can. Paint Co, Montreal.	
" 23	" "	60369	H. H. Con, Morell, P.E.I. ....	3	"	35		Rogers Hardware Co., Charlottetown.
" 24	" "	60370	Mathaw, McLean, Ltd., Souris, P.E.I.	3	"	35	Unknown	
" 24	" "	60371	J. J. Hughes, Co., Ltd., Souris, P.E.I.	3	"	35	A. M. Bell & Co., Halifax	
" 26	" "	60372	D. F. Keays, Bay field, P.E.I..	3	"	45		Stern Bros., Ltd., Souris, P.E.I.

DISTRICT OF NEW BRUNSWICK—JOHN C. FERGUSON, INSPECTOR.

July 15	Turpentine.	66151	Nat. Drug & Chem. Co., St. 3 John.	3	pts.	60		Prov. Chem. Fert. Co., St. John.
Aug. 2	" "	66152	Roberson, Foster & Smith, St. 3 John.	3	"	40		DeB. Carrite, St. John.
" 3	" "	66153	F. A. Young, St. John.....	3	"	40		Imperial Oil Co., St. John.
" 3	" "	66154	T. McAvity & Sons, St. John....	3	"	40		DeB. Carrite.....
" 4	" "	66155	W. H. Thorne & Co, Ltd., St. 3 John.	3	"	45		Wood Bros., St. John.
" 4	" "	66156	H. L. J. T. McGowan, St. 3 John.	3	"	40		DeB. Carrite, St. John.
" 11	" "	66157	DeWolf Hardware Co., 3 St. Stephen.	3	"	45		

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				Quantity.	Cents.	
				Manufacturer.	Furnisher.	

DISTRICT OF NEW BRUNSWICK—JOHN C. FERGUSON, INSPECTOR.—*Concluded.*

1915.						
Aug. 17	Turpentine.	66158	R. Chestnut & Son, Fredericton	3 pts.	45	Apothecary's Hall Co., Waterbury, Conn., U.S.A.
" 24	"	66159	Sussex Mercantile Co., Sussex	3 "	45	Imperial Oil Co., St. John.
" 26	"	66160	Sumner & Co., Moncton.	3 "	30	DeB. Carritte, St. John.

DISTRICT OF QUEBEC PROVINCE—J. AUDET, O. BROCHU, N. CADEUX AND S. GENDREAU, TEMPORARY INSPECTORS.

July 7	Terebentine.	3603	Dorchester Lumber, Ste. Madeleine.	3 pts.	21	Brit. Amer. Oil.
" 12	"	3610	J. L. Audet, St. Edward.	3 "	25	Dorchester Lumber, Ste. Madeleine.
" 13	"	3615	J. A. Cloutier, St. Odilon.	3 "	25	Hernan Young, Quebec.
" 16	"	3624	P. K. Prevot, Ste. Rose.	3 "	15	"
" 17	"	3627	Gariepie, St. Prosper.	3 "	25	Fratingham, Montreal.
" 20	"	3581	Antoine Picard, St. Raphael.	1 pt.	20	Hernan Young, Quebec.
" 20	"	3588	Antoine Labrecque, St. Raphael.	1 "	25	"
" 20	"	3593	L. A. Roy, St. Valier.	1 "	25	Jos. Lemieux, Quebec.

" 22	"	4401	Geo. Roy, St. Michel.	3 bats	25	Martin-Semour Co., Montreal.
" 22	"	4403	J. A. Lemieux, St. Michel.	3 "	25	"
" 22	"	4408	Jos. Labonte, St. Charles.	1 bat	24	W. M. Doyle.



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				Quantity.	Cents.	Manufacturer.	Furnisher.	
1915.								
July 8	Turpentine.	69124	S. Costello, Joliette.	3 Pts.	35	R. L. Jamieson, Montreal.		
" 7	"	69125	Edm. Wodon, Joliette.	3 "	38	Ramsay Sons, Ltd., Montreal.		
" 9	"	69126	Monahan Bros, St. Lin.	3 "	49	Imperial Oil Co., Montreal.		
" 9	"	69127	Alfred Henri, St. Lin.	3 "	45	Can. Paint Co., Montreal.		
" 10	"	69128	R. Charbonneau, St. Esprit.	3 "	45	" "		
" 10	"	69129	George Beaudoin, St. Esprit.	3 "	45	Can. Paint Co., Montreal.		
" 9	"	69130	W. Gendreau, St. Roch Achigan.	3 "	40	Couillard Auguste, Montreal.		
" 12	"	69131	L. Provost, L'Epiphanie.	3 "	30	Ramsay's Sons, Montreal.		
" 12	"	69132	T. A. Mercier, L'Epiphanie.	3 "	40	L. H. Hebert, Montreal.		
" 13	"	69133	L. Pauzé, L'Assomption.	3 "	60	Can. Paint Co., Montreal.		
Aug. 7	"	69184	S. Costello, Joliette.	3 "	38	R. E. Jamieson, Montreal.		

DISTRICT OF THREE RIVERS—DR. V. P. LAVALLÉE, INSPECTOR.

DISTRICT OF EASTERN TOWNSHIPS—J. J. COSTIGAN, ACTING INSPECTOR.

DISTRICT OF EASTERN TOWNSHIPS—J. J. COSTIGAN, ACTING INSPECTOR.

" 12	"	69132	T. A. Mercier, L'Épiphanie.....	3 "	40	Can. Paint Co., Montreal..	Bedard & Cie., L'Assomption.....
" 13	"	69133	L. Fauzé, L'Assomption.....	3 "	60	R. E. Jamieson, Montreal.	
Aug. 7	"	69134	S. Costello, Joliette.....	3 "	38		

  

Aug. 11	Turpentine..	63950	W. Bourque, Sherbrooke.....	3 Pts.	35		Sold as Georgia Turpentine.....
" 11	"	63951	N. LaReque, Sherbrooke.....	3 "	40		
" 11	"	63952	Jos. Lacombe & Fils, Sherbrooke..	3 "	40	Brit. Amer. Oil Co., Ltd.	
" 17	"	63953	Phoenix & Girard, Granby.....	3 "	25		
" 11	"	63954	Coderre & Fils, Inc., Sherbrooke..	3 "	45	Standard Oil Corporation..	
" 12	"	63955	M. B. Dionne, Coaticook.....	3 3	40		
" 13	"	63956	A. Seguin, St. Hyacinthe.....	3 "	38	Brit. Amer. Oil Co., Ltd.	
" 13	"	63957	Beauvoayer & Laline, St. Hyac.	3 "	38	Can. Paint Co., Ltd.	
" 13	"	63958	J. B. St. Pierre, St. Hyacinthe..	3 "	37	Imperial Oil Co.....	
" 13	"	63959	Gendron & Lemay, St. Hyacinthe..	3 "	45	Can. Paint Co.....	

DISTRICT OF MONTREAL—D. J. KEARNEY, INSPECTOR.

Aug. 4	Turpentine..	67456	The People's Hardware Co., 152 1/2 pts St. Lawrence Boul., Montreal..	45	Unknown.....	
" 4	"	67457	Bernier Hardware Co., 126 St. L. Lawrence Boul., Montreal.	45	Imperial Oil Co.....	
" 16	"	67458	A. Brouillet, 1390 St. Lawrence Boul., Montreal.	38	Can. Paint Co.....	
" 16	"	67459	O. Rollin & Co., 1324 St. Law. rence Boul., Montreal.	37	Brit. Amer. Oil Co.....	
" 16	"	67460	Beauvais Freres, 336 St. Law. rence Boul., Montreal.	45	Imperial Oil Co.....	
" 23	"	67461	A. Geoffrion, 253 St. Paul st. E., Montreal.	39	Georgia Turpentine.....	
" 23	"	67462	J. O. Denis, 239 St. Paul st. E., Montreal.	30	McArthur Irwin Co.....	
" 24	"	67463	Levac & Lalonde, 187 Church ave., Verdun.	40	Mount Royal Colour & Varnish Co.	
" 24	"	67464	The Raymond Hardware, Ltd., 343 Notre Dame st. W., Mont real.	37	Georgia Turpentine Co.....	
" 24	"	67465	L. L. Lafleur, Ltd., 386 Notre Dame st. W., Montreal.	37	"	



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				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF VALLEYFIELD—J. J. COSTIGAN, ACTING INSPECTOR.

1915.								
July 22	Turpentine..	57991	L. P. Beaulne, Hawkesbury.....	3 pds.	35	Can. Paint Co.....		
"	"	57992	J. G. Higginson, Hawkesbury..	3 "	25	Imperial Oil Co.....		
"	"	57993	J. O. Phenix, Hawkesbury.....	3 "	45	Can. Paint Co.....		
"	"	57994	A. Morand, Valleyfield.....	3 "	45	"		
"	"	57995	V. Leger, Valleyfield.....	3 "	35			
"	"	57996	Besner & Chasle, Valleyfield..	3 "	36			
"	"	57997	N. Langevin, Valleyfield.....	3 "	35			
"	"	57998	A. Lebeuf, Valleyfield.....	3 "	40			
"	"	57999	Cote & Cie, St. Johns.....	3 "	30	McArthur Irwin, Montreal		
"	"	58000	C. O. Gervais & Fils, St. Johns..	3 "	35			

DISTRICT OF OTTAWA—J. A. RICKEY, INSPECTOR.

Month	Day	Product	No.	Quantity	Name	Address	Manufacturer
July	16	Turpentine	51693	3 pks.	E. J. McGarry, Renfrew	Ottawa	Ottawa Paint Works
"	16	"	51694	3 "	Devine & Legree, Renfrew	Ottawa	"
"	16	"	51695	3 "	French & Co., Renfrew	R. C. Jamieson Co., Montreal	"
"	16	"	51696	3 "	The Jennings Co., Renfrew	Can. Paint Co., Montreal	"
"	17	"	51697	3 "	A. G. Dobbie & Co., Brockville	Can. Oil Co., Toronto	"
"	17	"	51698	3 "	B. D. Steacy, Brockville	Georgia Turpentine Co., Montreal	"
"	31	"	51699	3 "	Dunlop & Co., Ltd., Pembroke	Can. Paint Co., Montreal	"
"	10	"	63689	3 "	Griffin & Brennan, Arnprior	E. Fielding & Son, Toronto	"
"	10	"	63690	3 "	John S. Moir, Arnprior	Ottawa Paint Works, Ottawa	"
"	13	"	63691	3 "	W. J. Muirhead, Carleton Place	Can. Paint Co., Montreal	"
"	13	"	63692	3 "	Taylor Bros., Carleton Place	Ottawa Paint Works, Ottawa	"
"	17	"	63693	3 "	E. H. Smart, Brockville	Can. Paint Co., Montreal	"
"	17	"	63694	3 "	"	Midland, Toronto	"

DISTRICT OF KINGSTON—JAMES HOGAN, INSPECTOR.

Month	Day	Product	No.	Quantity	Name	Address	Manufacturer
July	28	Turpentine	70251	3 pks.	Savage & Wightman, Kingston	Kingston	Sanderson & Percy Co., Toronto
"	28	"	70252	3 "	Robinson Bros., Kingston	Kingston	J. H. Morin, Toronto
"	28	"	70253	3 "	A. Chown & Co., Kingston	Kingston	Mixture of two kinds
"	28	"	70254	3 "	John Laird & Sons, Kingston	Kingston	Dalton & Son, Kingston
"	28	"	70255	3 "	W. J. Vince, Kingston	Kingston	H. W. Marshall, Kingston
"	28	"	70256	3 "	H. W. Marshall, Kingston	Kingston	Georgia Turpentine Co., Montreal
"	28	"	70257	3 "	J. B. Bunt & Co., Kingston	Kingston	Dalton & Son, Kingston
"	28	"	70258	3 "	W. A. Mitchell, Kingston	Kingston	"
"	28	"	70259	3 "	Batsford & Nicol, Kingston	Kingston	J. A. Casey Co., New York
"	28	"	70260	3 "	McKelvey & Birch, Kingston	Kingston	Oil & Rawson Co. Savannah, Ga.

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				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

1915.	Aug. 8	Turpentine.	70074 W. A. Stephenson, 28 Vaughan St., Toronto.	3	25	Unknown	Unknown	
	" 10	"	Rd., Toronto.	3	25	Can. Oils, Ltd., Toronto.	Can. Oils, Ltd., Toronto.	
	" 11	"	70075 R. H. Hudson, 1199 St. Clair Ave., Toronto.	3	25	Ottawa Paint Co., Toronto.	Ottawa Paint Co., Toronto.	
	" 15	"	70076 Tom's Bros., 1612 Danforth Ave., Toronto.	3	30	Reynolds & Co., Toronto.	Reynolds & Co., Toronto.	
	" 14	"	70077 Nodon, Hallet & Johnson, 1623 Dundas St. W., Toronto.	3	35	Glidden Varnish Co., Toronto.	Glidden Varnish Co., Toronto.	
	" 16	"	70078 J. James Huggill, Weston.	3	30	Sherwin-Williams Co., Ltd., Toronto.	Sherwin-Williams Co., Toronto.	
	" 17	"	70079 E. W. Chard, 324 College St., Toronto.	3	25	Royal Commission, Toronto.	Royal Commission, Toronto.	
	" 17	"	70080 T. H. Boyd, 2252 Queen St. E., Toronto.	3	30	Imperial Oil Co., Ltd., Toronto.	Imperial Oil Co., Ltd., Toronto.	
	" 18	"	70081 C. G. Bailey, 1958 Queen St. E., Toronto.	3	25	Turpentine Producers, Ltd., Toronto.	Turpentine Producers, Ltd., Toronto.	
	" 20	"	70082 G. H. Wall, 305 Roncesville Ave., Toronto.	3	25	"	"	
	"	"	70083 J. W. Peacock, 1026 Queen St. W., Toronto.	3	25	"	"	



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				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF MANITOBA—J. B. COSGROVE, TEMPORARY INSPECTOR.

1915.								
Aug. 4	Turpentine.	61325	Walter Johnson, 533 Sherbrooke, 3 pks.	60	Miller-Morse, Winnipeg.			
"	"	61326	Winnipeg. Andrews & Sons, Victor St., Win- 3 "	60	Can. Paint Co., Winnipeg			
"	"	61327	R. Steiman Hardware Co., 541 3 " Selkirk Ave., Winnipeg	60	Can. Oil Co., Winnipeg.			
"	"	61329	Tulley & Davey, 1772 Main St., 3 " Winnipeg.	60				
"	"	61331	R. Thornton, 262 Tache Ave., 3 " Norwood.	45	Wood, Valance Co., Winnipeg			
"	"	61333	Allaire & Blean, 568 Tache Ave., 3 " St. Boniface.	60	G. F. Stephen, Winnipeg			
"	"	61334	H. R. Wood, Napinka..... 3 "	60	Snowdon Oil Co.....			
"	"	61338	Myers & Williams, 655 104th St., 3 " Brandon.	60	Sherwin, Williams, Winni- peg.			
"	"	61339	A. J. Bond & Co., 1763 Portage 3 " Ave., St. James.	60	Merrick Anderson, Winnipeg			
"	"	61340	Aikenhead-Clark Hardware Co., 3 " Boyd Building, Winnipeg.	60	Scarfe & Co., Winnipeg			

DISTRICT OF SASKATCHEWAN—L. H. HALL, TEMPORARY INSPECTOR.

July 19	Turpentine..	66394	C. T. Laird, Regina.....	3	pts	60	Unknown.....	peg.	Merrick Anderson, Winnipeg
" 19	"	66395	Regina Trading Co., Regina....	3	"	60	Continental Oil Co.....	"	Scarfe & Co., Winnipeg
" 19	"	66396	Armstrong Saythe & Downswell, Regina.....	3	"	69	Winnipeg Oil Co., Regina.....	"	
" 20	"	66398	John Geebel, Melville.....	3	"	69	Winnipeg Oil Co., Melville.....	"	
" 20	"	65400	E. Smith, Melville.....	3	"	69	"	"	
" 20	"	66402	Wm. Anderson Melville.....	3	"	40	Sherwin Williams Co., Winnipeg.....	"	
" 21	"	66410	Chas. Beck, Yorkton.....	3	"	50	Winnipeg Oil Co., Yorkton.....	"	
" 21	"	66412	D. A. Sands, Yorkton.....	3	"	75	G. F. Stephens & Co., Winnipeg.....	"	
" 22	"	66416	Isbister & Pretty, Saskatoon.....	3	"	60	"	"	
" 23	"	66418	Fawcett Hardware Co., Saskatoon.....	3	"	40	Prairie City Oil Co., Saskatoon.....	"	

DISTRICT OF ALBERTA—A. W. R. MARKLEY, INSPECTOR.

Aug. 10	Turpentine..	52246	Northern Hardware Co., Edmonton.....	3	pts.	45	Brit. Amer. Paint Co., Edmonton.....	"	
" 10	"	52247	Chown Hardware Co., Edmonton.....	3	"	60	G. F. Stephens Co., Winnipeg.....	"	
" 10	"	52248	J. A. Werner, Edmonton.....	3	"	60	Brit. Amer. Paint Co., Edmonton.....	"	
" 10	"	52249	Somerville Hardware Co., Ft. Edmonton.....	3	"	60	Marshall Wells Alberta Co., Edmonton.....	"	
" 12	"	52250	Geo. D. Wallace, Ltd., Wetaskiwin.....	3	"	50	G. F. Stephens Winnipeg.....	"	
" 13	"	52251	Morrison & Johnstone, Ltd., Lacombe.....	3	"	45	Marshall Wells Winnipeg.....	"	
" 13	"	52252	A. M. Campbell, Lacombe.....	3	"	40	G. F. Stephens Co., Winnipeg.....	"	
" 29	"	52253	J. H. Ashdown Hardware Co., Calgary.....	3	"	30	Prairie City Oil Co., Winnipeg.....	"	
" 29	"	52254	Marshall Hardware, Ltd., Calgary.....	3	"	60	Calgary Paint & Glass Co.....	"	
" 29	"	52255	Hall Hardware Co., Calgary.....	3	"	25	Brit. Amer. Paint Co., Calgary.....	"	

BULLETIN No. 331—TURPENTINE.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF ROCKY MOUNTAINS—THOS. PARKER, INSPECTOR.

1915.								
July 26	Turpentine	61847	F. Wilmes, Trail	3	60	Sherwin Williams Co., Montreal.	Jones & Dillingham, Spokane.	
" 20	"	61854	Hunter Bros., Rossland	3	40	"	McLennan & McFeely, Vancouver.	
Aug. 6	"	61866	W. R. Megaw, Vernon	3	50	"	Wood, Vallance & Leggatt, Vancouver.	
" 6	"	61867	Vernon Hardware Co., Vernon	3	60	"	McLennan & McFeely, Vancouver.	
" 10	"	61872	Wilcox Hall Co., Kamloops	3	50	Imperial Oil Co., Vancouver.	"	
" 10	"	61875	Marlatt & McKenzie, Kamloops	3	50	"	"	
" 10	"	61876	N. S. Dalgleish, Kamloops	3	50	"	"	
" 16	"	61882	Merritt Mercantile Co., Merritt	3	65	"	Johnson Paint & Varnish Co., Vancouver.	
" 16	"	61883	Armstrong's Departmental Stores, Merritt	3	50	"	Cunningham Hardware New Westminster.	
" 16	"	61886	A. Jackson, Merritt	3	60	Imperial Oil Co., Vancouver.	"	

DISTRICT OF VANCOUVER—E. J. MORGAN, INSPECTOR.

July 28	Turpentine	55348	W. C. Stearman, 613 Granville	3	60	Imperial Oil Co., Vancouver.		
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DISTRICT OF VANCOUVER—E. J. MORGAN, INSPECTOR.

" 16	"	61883	Armstrong's Departmental Stores	3 "	50	Imperial Oil Co., Vancouver.	Cunningham Hardware New Westminster.
" 16	"	61886	Merritt. A. Jackson, Merritt.	3 "	60	Imperial Oil Co., Vancouver.	
July 28	Turpentine.	55348	W. C. Stearman, 613 Granville St., Vancouver.	3 bots.	60	Imperial Oil Co., Vancouver.	
" 28	"	55349	Hunter Henderson Paint Co., 642 1/2 Granville St., Vancouver.	"	60	British American Paint Co., Victoria.	
" 29	"	55350	F. R. Pezz & Co., Ltd., 167 1/2 Pender St. W., Vancouver.	"	50	A. Ramsay & Son, Montreal.	
" 29	"	55351	Imperial Varnish & Colour Co., 43 Pender St. W., Vancouver.	3 "	60	Imperial Oil Co., Vancouver.	Crown Paint Co., Vancouver.
" 29	"	55352	Wood, Vallance & Leggett, Ltd., 8 Cordova St. W., Vancouver.	3 "	40	Imperial Oil Co., Vancouver.	Sold as near turpentine.
" 30	"	55353	Gordon Brown & Co., 29 1/2 Granville St., Vancouver.	3 "	35	R. C. Jamieson & Co., Montreal.	
" 30	"	55354	Crown Paint Co., 24 Cordova St. E., Vancouver.	3 "	50	Texas Turpentine Co., Rembig, Texas, U.S.A.	
" 31	"	55355	Cunningham Hardware Co., Columbia St., New Westminster.	3 "	55	Crown Paint Co., Vancouver.	
" 31	"	55356	H. T. Kirk, Columbia St., New Westminster.	3 "	60	McLennan & McFeely & Co., Vancouver.	
Aug. 2	"	55357	Vancouver Hardware Co., 819 1/2 Granville St., Vancouver.	"	60	A. Ramsay & Son, Montreal.	

DISTRICT OF VICTORIA—D. OSULLIVAN, INSPECTOR.

Sept. 24	Turpentine.	66730	Mellor Bros., Ltd., P.O. Box 3 pts. Victoria.	3 "	60	Imperial Oil Co., Victoria.	
" 24	"	66732	The Stanceland Co., 840 Fort St., Victoria.	3 "	75	Agent at Seattle.	
" 27	"	66733	H. H. James & Son, 919 Pandora St., Victoria.	3 "	75	B. A. Paint Co., Victoria.	
" 27	"	66735	J. I. Forrester, 1304 Douglas St., Victoria.	3 "	75	"	
" 28	"	66737	P. McQuade & Son, 1214 Wharf St., Victoria.	3 "	56	The Stanceland Co., Victoria.	
" 28	"	66739	E. B. Marvin & Co., 1292 Wharf St., Victoria.	3 "	75	Imperial Oil Co., Victoria.	
" 29	"	66801	Brit. Amer. Paint Co., Laurel Point, Victoria.	3 "	25	A. Hardacre & Co., New Orleans.	
" 29	"	66803	The Melrose Co., Ltd., 618 1/2 Fort St., Victoria.	"	60	Imperial Oil Co., Victoria.	



TABLE I  
RESULTS OF

PART II—TURPENTINE.

ANALYSIS.

Active Index and		20° C. of Fractions Residues.		Volumes Obtained from 100cc.								Residue on Evaporation.	Iodine Number.	Flash Point.	No. of Sample.	Remarks and Opinion of the Chief Analyst.	
II	III	Residual 10cc.	Residual 25cc.	Under 150° C.	150° to 154°.	155° to 159°.	160° to 164°.	165° to 169°.	170° to 174°.	175° to 179°.	180° to 184°.						185° to 189°.
4689	4689		1-4738	4	5	8	14	14	11	6	5	5	3			64256	Adulterated. See note on page 5.
4697	4697		1-4742	3	3	6	17	15	9	8	5	5	4			64257	" "
4691	4696		1-4741	3	4	7	16	15	9	7	5	5	3			64258	" "
4689	4689		1-4743	3	4	9	14	14	10	6	5	4	4			64259	" "
4694	4698		1-4737	3	4	8	13	13	11	7	4	5	7			64260	" "
4688	4696		1-4708	3	4	7	7	7								69841	
4695	4704		1-4708	3	4	7	10	10								69842	
4694	4700		1-4713	3	4	7	7	8								69843	
4684	4690		4-4712	1	1	6	7	8								63814	
4692	4699		1-4700	1	1	4	4	4								63816	
4687	4694		1-4708	1	1	4	7	9								60363	
4693	4699		1-4705	1	1	3	7	14								60364	
4697	4702		1-4712	1	1	1	7	12								60365	
4698	4707		1-4715	1	1	1	7	10								60366	
4658	4680		1-4743	1	1	5	4	2	6	3	2	1	1			60367	
4641	4655		1-4841	1	1	5	17	4	6							60368	
4679	4682		1-4699	1	1	11	36	28	9	3	1					60369	Adulterated. See note on page 5.
4681	4682		1-4692	1	1	10	7	4	4	2	1					60370	" "
4681	4690		1-4746	1	1	3	10	9	7	13	5	7	5	16		60371	Adulterated. See note on page 5.
4680	4683		1-4723	1	1	2	14	5	8	9	4	2	1			60372	" "
4687	4692		1-4694	1	1	1	10	7	9							66151	
4699	4701		1-4700	1	1	1	3	8	6							66152	
4686	4687		1-4713	1	1	5	8	2	3							66153	
4687	4695		1-4688	1	1	5	8	4	1							66154	
4679	4690		1-4703	1	1	5	8	2	3							66155	
4691	4696		1-4695	1	1	6	8	1	3							66156	
4682	4698		1-4711	1	1	5	7	9	6							66157	
4695	4701		1-4702	1	1	7	8	1	2							66158	
4686	4694		1-4710	1	1	2	7	3	15							66159	
			1-4702	1	1	2	7	1	17							66160	
1-4625	1-4640																
1-4620	1-4634		1-4638	1	1	5	32	23	14	7	6	1	1			3603	Adulterated. See note on page 5.
1-4684	1-4684		1-4692	1	1	3	9	50	22	4	1	1				3610	" "
1-4678	1-4685		1-4698	1	1	3	1	7	41	10	10	3	2	1	12	3615	Adulterated. See note on page 5.
1-4640	1-4664		1-4715	1	1	2	10	14	21	15	3	2	1	21		9027	" "
1-4680	1-4680		1-4730	1	1	7	12	15	10	11	5	6	3	19		3584	" "
1-4700	1-4710		1-4688	1	1	1	2	22	20	17	8	9	4	7		3588	" "
1-4695	1-4705		1-4728	1	1	1	7	4	14	1						3593	
1-4684	1-4708		1-4724	1	1	1	32	42	10	4	1					4401	
1-4700	1-4705		1-4788	1	1	6	39	14	14	6	5	2	1	3		4403	
1-4665	1-4678		1-4720	1	1	9	6	6	9	4	2					4408	
																4410	
																4413	
																4416	
																4423	
																299	
																300	
																311	
																313	
			1-4712	1	1	12	3	4	11	15	5	4	7	7	12	322	Adulterated. See note on page 5.
																2769	" "
																2771	" "
1-4636	1-4650															2773	" "
			1-4730	1	1	2	2	13	17	15	9	4	4	4	20	2777	Adulterated. See note on page 5.
																2783	" "

## BULLETIN No. 331—TABLE I

## RESULTS OF

Name of Inspectoral District.	No. of Sample.	Sp. gr. at 15.5° C.	Residue 10cc. 40cc. Acid.	Ref. Index 20° C. Residue.	Ref. Index 20° C. Turpentine.	Boiling Point of Fractions from 100cc.				Refractive Index and				
						1st, 25cc.	2nd, 25cc.	3rd, 25cc.	Next, 15cc.	I	II	III		
Three Rivers ...	2789	0.8536	2.72	1.4592	1.4650	147-158	-163	-174	-235	1.4635	1.4658	1.4660	1.4614	1.4
	2792	0.8829	0.64	1.4900	1.4728	85-157	-159	-169	-225	1.4654	1.4698	1.4712	1.4822	1.4
	2794	0.8770	2.48	1.4680	1.4702	100-159	-167	-184	-225	1.4640	1.4666	1.4685	1.4748	1.4
	2797	0.8734	0.60	1.4922	1.4690	95-156	-168	-167	-218	1.4650	1.4682	1.4702	1.4802	1.4
	69124	0.8658	0.48	1.4045	1.4702	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69125	0.8633	0.40	1.5084	1.4704	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69126	0.8651	0.48	1.5072	1.4704	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69127	0.8647	0.40	1.5080	1.4702	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69128	0.8670	0.40	1.5068	1.4702	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69129	0.8662	0.56	1.5026	1.4704	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69130	0.8798	0.64	1.4959	1.4720	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69131	0.8742	0.64	1.5030	1.4726	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69132	0.8650	0.68	1.5042	1.4704	.....	.....	.....	.....	.....	.....	.....	.....	.....
	69133	0.8679	0.84	1.4882	1.4694	140-156	-158	-159	-169	1.4650	1.4686	1.4698	1.4718	1.4
	69184	0.8676	0.80	1.4995	1.4710	.....	.....	.....	.....	.....	.....	.....	.....	.....
63050	0.8799	3.32	1.4665	1.4725	130-169	-183	-210	-247	1.4670	1.4688	1.4700	1.4760	1.4	
Eastern Townships.	63051	0.8559	3.40	1.4635	1.4668	80-164	-169	-190	-238	1.4586	1.4668	1.4686	1.4708	1.4
	63052	0.8483	3.36	1.4580	1.4632	147-159	-161	-163	-179	1.4600	1.4632	1.4648	1.4650	1.4
	63053	0.8652	0.88	1.4922	1.4700	150-155	-155	-155	-159	1.4678	1.4692	1.4700	1.4712	1.4
	63054	0.8666	0.64	1.5020	1.4702	.....	.....	.....	.....	.....	.....	.....	.....	.....
	63055	0.8499	3.36	1.4564	1.4624	130-156	-156	-166	-197	1.4576	1.4620	1.4636	1.4645	1.4
	63056	0.8488	3.36	1.4596	1.4630	140-159	-161	-164	-195	1.4596	1.4630	1.4644	1.4640	1.4
Montreal .....	63057	0.8665	0.92	1.4952	1.4700	.....	.....	.....	.....	.....	.....	.....	.....	.....
	63058	0.8794	0.56	1.5012	1.4722	.....	.....	.....	.....	.....	.....	.....	.....	.....
	63059	0.8662	0.72	1.5022	1.4712	.....	.....	.....	.....	.....	.....	.....	.....	.....
	67456	0.8654	0.72	1.5008	1.4705	.....	.....	.....	.....	.....	.....	.....	.....	.....
	67457	0.8661	0.76	1.5000	1.4704	.....	.....	.....	.....	.....	.....	.....	.....	.....
	67458	0.8699	0.92	1.4756	1.4690	93-157	-159	-162	-179	1.4632	1.4665	1.4686	1.4720	1.5
	67459	0.8548	3.52	1.4570	1.4638	120-163	-167	-179	-205	1.4612	1.4632	1.4645	1.4645	1.4
	67460	0.8648	0.88	1.4952	1.4694	.....	.....	.....	.....	.....	.....	.....	.....	.....
	67461	0.8695	3.40	1.4676	1.4704	116-167	-178	-220	-235	1.4668	1.4680	1.4692	1.4726	1.4
	67462	0.8675	0.56	1.5080	1.4712	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valleyfield .....	67463	0.8680	0.44	1.5086	1.4716	.....	.....	.....	.....	.....	.....	.....	.....	.....
	67464	0.8614	3.36	1.4684	1.4700	140-164	-175	-220	-235	1.4680	1.4690	1.4698	1.4718	1.4
	67465	0.8618	3.48	1.4665	1.4698	145-168	-178	-215	-247	1.4624	1.4684	1.4686	1.4718	1.4
	57991	0.8890	0.64	1.4975	1.4740	100-158	-160	-170	-225	1.4680	1.4690	1.4706	1.4830	1.5
	57992	0.8902	0.56	1.4981	1.4750	100-157	-158	-168	-215	1.4682	1.4692	1.4710	1.4805	1.5
	57993	0.8865	0.48	1.4965	1.4740	100-156	-156	-168	-230	1.4680	1.4696	1.4708	1.4812	1.5
Ottawa .....	57994	0.8681	0.88	1.4964	1.4706	.....	.....	.....	.....	.....	.....	.....	.....	.....
	57995	0.8643	0.72	1.4952	1.4692	.....	.....	.....	.....	.....	.....	.....	.....	.....
	57996	0.8652	0.76	1.4955	1.4706	.....	.....	.....	.....	.....	.....	.....	.....	.....
	57997	0.8671	1.00	1.5042	1.4704	.....	.....	.....	.....	.....	.....	.....	.....	.....
	57998	0.8744	0.92	1.4872	1.4710	140-157	-157	-164	-210	1.4680	1.4685	1.4692	1.4740	1.4
	57999	0.8648	1.04	1.5010	1.4702	.....	.....	.....	.....	.....	.....	.....	.....	.....
	58000	0.8580	3.68	1.4670	1.4680	120-158	-164	-178	-215	1.4652	1.4664	1.4684	1.4692	1.4
	51693	0.8451	2.80	1.4521	1.4610	150-157	-158	-159	-174	1.4612	1.4620	1.4630	1.4610	1.4
	51694	0.8659	0.58	1.5050	1.4705	.....	.....	.....	.....	.....	.....	.....	.....	.....
	51695	0.8668	0.88	1.4968	1.4700	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston .....	51696	0.8662	0.56	1.5092	1.4700	.....	.....	.....	.....	.....	.....	.....	.....	.....
	51697	0.8692	1.00	1.4715	1.4692	150-167	-177	-207	-238	1.4680	1.4690	1.4690	1.4710	1.4
	51698	0.8667	0.64	1.5005	1.4700	.....	.....	.....	.....	.....	.....	.....	.....	.....
	51699	0.8665	0.88	1.4995	1.4704	.....	.....	.....	.....	.....	.....	.....	.....	.....
	63689	0.8441	2.92	1.4494	1.4610	130-153	-154	-158	-169	1.4595	1.4615	1.4622	1.4600	1.4
	63690	0.8664	1.00	1.4998	1.4705	.....	.....	.....	.....	.....	.....	.....	.....	.....
	63691	0.8486	2.72	1.4580	1.5030	140-157	-158	-159	-169	1.4610	1.4640	1.4648	1.4625	1.4
	63692	0.8662	0.68	1.4970	1.4700	.....	.....	.....	.....	.....	.....	.....	.....	.....
	63693	0.8227	4.08	1.4412	1.4510	100-140	-153	-157	-163	1.4284	1.4502	1.4616	1.4602	1.4
	70251	0.8695	0.60	1.5030	1.4708	.....	.....	.....	.....	.....	.....	.....	.....	.....
70252	0.8675	0.56	1.5060	1.4710	.....	.....	.....	.....	.....	.....	.....	.....	.....	

PART II  
ANALYSE20° C. of Fr.  
Residues.IV  
Residual 10cc.

TABLE I  
RESULTS OF

PART II—TURPENTINE  
ANALYSIS.

Active Index and		20° C. of Fractions Residues.		Volumes Obtained from 100cc.										Residue on Evaporation.	Iodine Number.	Flash Point.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
II	III	IV	Residual 10cc.	Residual 25cc.	Under 150° C.	150° to 154°	155° to 159°	160° to 164°	165° to 169°	170° to 174°	175° to 179°	180° to 184°	185° to 189°					
4658	1'4660	1'4614	1'4792		1	20	9	29	11	5	3	2	2	2	2789	Adulterated.	See note on page 5.	
4698	1'4712	1'4822	1'49+		5	10	38	17	6	2	2	1	1	1	2792	"	"	
4666	1'4685	1'4748	1'49+		4	8	13	22	13	2	2	4	3	1	2794	Adulterated.	See note on page 5.	
4682	1'4702	1'4802	1'49+		4	13	42	14	6	2	2	1	1	1	2797	"	"	
															69124			
															69125			
															69126			
															69127			
															69128			
															69129			
															69130			
															69131			
															69132			
4686	1'4698	1'4718	1'4968		3	10	62	11	4						69133			
															69184			
4688	1'4700	1'4760	1'49+			5	12	12	8	9	9	6	29		63050	Adulterated.	See note on page 5.	
4668	1'4686	1'4708	1'4892		4	3	9	14	20	5	6	4	6		63051	"	"	
4632	1'4648	1'4650	1'4720			5	29	50	4	1	1				63052	"	"	
4692	1'4700	1'4712	1'4846			2	88								63053	"	"	
															63054			
4620	1'4636	1'4645	1'4820		1	12	41	16	9	3	2	2	1	3	63055	Adulterated.	See note on page 5.	
4630	1'4644	1'4640	1'4722		2	3	25	36	15	7	4	2	1	1	63056	"	"	
															63057			
															63058			
															63059			
															67456			
															67457			
															67458			
4665	1'4686	1'4720	1'5115		3	8	55	15	5	3	1				67459	Adulterated.	See note on page 5.	
4632	1'4645	1'4645	1'4892		1	5	5	29	19	11	7	5	2	6	67460	Adulterated.	See note on page 5.	
4680	1'4692	1'4726	1'4930		1	1	15	15	10	11	9	3	24		67461	Adulterated.	See note on page 5.	
															67462			
															67463			
4690	1'4698	1'4718	1'4808		3	5	17	12	12	7	7	1	26		67464	Adulterated.	See note on page 5.	
4684	1'4686	1'4718	1'4852		3	3	9	20	11	7	5	3	29		67465	"	"	
4690	1'4706	1'4834	1'5+		1	11	33	23	6	4	2	1	1	8	57991			
4692	1'4710	1'4805	1'5+		2	9	47	13	5	3	3	1	1	6	57992			
4696	1'4708	1'4812	1'5+		4	15	41	11	6	2	2	1	1	7	57993			
															57994			
															57995			
															57996			
															57997			
4685	1'4692	1'4740	1'49+			3	65	8	6	2	1	2	1	2	57998			
															57999			
4664	1'4664	1'4692	1'4845		8	10	27	16	9	4	8	3	1	10	58000	Adulterated.	See note on page 5.	
4620	1'4630	1'4610	1'4672		4	73	7	5	1						51693	"	"	
															51694			
															51695			
															51696			
4690	1'4690	1'4710	1'49+		2	4	12	21	7	13	4	4	23		51697	Adulterated.	See note on page 5.	
															51698			
															51699			
4615	1'4622	1'4600	1'4665		2	53	27	6	2						63689	Adulterated.	See note on page 5.	
4640	1'4648	1'4625	1'4720			14	69	6	1						63690	Adulterated.	See note on page 5.	
															63691	Adulterated.	See note on page 5.	
															63692	Adulterated.	See note on page 5.	
4502	1'4616	1'4662	1'4760		4	1	20	27	2						63693	Adulterated.	See note on page 5.	
															70251			
															70252			

BULLETIN No. 331—TABLE I

RESULTS OF

Name of Inspectoral District.	No. of Sample.	S. Gr. at 20° C.	Residue 10cc. 40cc. Acid.	Ref. Index 20° C. Residue.	Ref. Index 20° C. Turpentine.	Boiling Point of Fractions from 100cc.				Refractive Index and					
						1st. 25cc.	2nd 25cc.	3rd 25cc.	Next, 15cc.	I	II	III			
													IV	Residual 10cc.	
Kingston—Con.	70253	0.8648	0.72	1.5024	1.4710										
	70254	0.8726	0.48	1.5058	1.4714										
	70255	0.8562	1.16	1.4722	1.4765	100—164	-174	-184	+243	1.4670	1.4675	1.4685	1.4715	1.48	
	70256	0.8682	1.08	1.4860	1.4715	130—154	-159	-167	-210	1.4700	1.4700	1.4710	1.4740	1.50	
	70257	0.8733	0.56	1.5062	1.4718										
	70258	0.8655	0.64	1.5039	1.4700										
	70259	0.8657	0.68	1.5060	1.4708										
	70260	0.8643	0.44	1.5065	1.4716										
	70074	0.8646	0.64	1.5018	1.4702										
	70075	0.8665	0.72	1.5030	1.4720										
Toronto.	70076	0.8647	0.68	1.5042	1.4714										
	70077	0.8539	2.90	1.4630	1.4660	140—157	-159	-161	-168	1.4620	1.4665	1.4682	1.4684	1.47	
	70078	0.8687	0.72	1.4895	1.4698	130—156	-156	-159	-174	1.4648	1.4684	1.4700	1.4720	1.50	
	70079	0.8453	3.20	1.4300	1.4624	150—159	-164	-179	-230	1.4612	1.4642	1.4644	1.4598	1.47	
	70080	0.8409	8.76	1.4480	1.4602	140—157	-163	-167	-189	1.4550	1.4610	1.4628	1.4624	1.47	
	70081	0.8653	0.68	1.4956	1.4702										
	70082	0.8477	2.20	1.4524	1.4635	120—156	-158	-162	-172	1.4560	1.4652	1.4672	1.4678	1.47	
	70083	0.8497	1.92	1.4552	1.4644	140—157	-158	-161	-171	1.4600	1.4658	1.4678	1.4685	1.47	
	Hamilton.	70941	0.8682	0.44	1.4985	1.4720									
		70042	0.8690	0.56	1.4995	1.4705									
70043		0.8422	4.00	1.4552	1.4606	130—158	-161	-169	-155	1.4550	1.4600	1.4622	1.4622	1.48	
70044		0.8617	0.96	1.4825	1.4685	150—156	-156	-156	-161	1.4680	1.4675	1.4690	1.4700	1.48	
70045		0.8649	0.72	1.4970	1.4704										
70046		0.8721	0.48	1.4975	1.4720										
70047		0.8660	0.56	1.4984	1.4710										
70048		0.8659	0.44	1.4998	1.4712										
70049		0.8734	0.40	1.4958	1.4720										
70050		0.8700	0.60	1.4970	1.4712										
Windsor.	54644	0.8639	0.68	1.5030	1.4694										
	54646	0.8649	0.64	1.5030	1.4700										
	54648	0.8640	0.68	1.5020	1.4698										
	54650	0.8669	0.64	1.5015	1.4706										
	54652	0.8648	0.64	1.5024	1.4694										
	54654	0.8652	0.60	1.5030	1.4692										
	54657	0.8666	0.56	1.5048	1.4705										
	54659	0.8666	0.68	1.5018	1.4712										
	54662	0.8661	0.64	1.5048	1.4694										
	54664	0.8690	0.64	1.5018	1.4710										
Manitoba.	61325	0.8592	2.00	1.4780	1.4670										
	61326	0.8685	0.72	1.5155	1.4708										
	61327	0.8667	0.72	1.5100	1.4703										
	61329	0.8765	0.80	1.5104	1.4715										
	61331	0.8619	1.04	1.4875	1.4672										
	61333	0.8703	0.64	1.5090	1.4708										
	61334	0.8595	1.58	1.4820	1.4672										
	61338	0.8699	0.56	1.5050	1.4709										
	61339	0.8684	0.64	1.5080	1.4702										
	61340	0.8647	1.60	1.4820	1.4678										
Saskatchewan.	66394	0.8743	0.48	1.5030	1.4705										
	66395	0.8612	1.36	1.4800	1.4673										
	66396	0.8692	0.80	1.5038	1.4703										
	66398	0.8694	0.48	1.5060	1.4706										
	66400	0.8698	0.72	1.5068	1.4708										

PART II. ANALYSIS

20° C. of Fr. Residue.

IV Residual 10cc.

IV	Residual 10cc.
1.4715	1.48
1.4740	1.50
1.4684	1.47
1.4720	1.50
1.4598	1.47
1.4624	1.47
1.4678	1.47
1.4685	1.47
1.4622	1.48
1.4700	1.48
150°	
150°	
149°	
151°	
149°	
153°	
149°	
148°	
153°	
150°	
150°	
150°	
152°	
149°	
150°	







## BULLETIN No. 331—TABLE I

## RESULTS OF

Name of Inspectoral District.	No. of Sample.	Sp. Gr. at 15° C.	Residue 10 cc. cc. acid.	Ref. Index 20° C. Residue.	Ref. Index 20° C. Turpentine.	Boiling Point of Fractions from 100cc.				Refractive Index and				
						1st, 25cc.	2nd, 25cc.	3rd, 25cc.	Next, 15cc.	I	II	III		
Saskatchewan Con.	66402	0.8685	0.52	1.5020	1.4700	.....	.....	.....	.....	.....	.....	.....	.....	.....
	66410	0.8681	0.48	1.5022	1.4701	.....	.....	.....	.....	.....	.....	.....	.....	.....
	66412	0.8684	0.64	1.5094	1.4699	.....	.....	.....	.....	.....	.....	.....	.....	.....
	66416	0.8696	0.48	1.5020	1.4708	.....	.....	.....	.....	.....	.....	.....	.....	.....
	66418	0.8691	0.56	1.5100	1.4710	.....	.....	.....	.....	.....	.....	.....	.....	.....
			Sp. gr. at 20° C.				Initial Boiling Point.							
Alberta.....	52246	0.8599	1.60	1.4518	1.4671	152-160	-163	-171	-217	1.4648	1.4660	1.4669	.....	.....
	52247	0.8652	0.32	1.5005	1.4711	156-158	-159	-160	-165	1.4689	1.4692	1.4702	.....	.....
	52248	0.8548	1.76	1.4540	1.4665	152-157	-161	-167	-189	1.4648	1.4660	1.4666	.....	.....
	52249	0.8652	0.36	1.4950	1.4710	154-157	-158	-160	-164	1.4689	1.4693	1.4703	.....	.....
	52250	0.8652	0.36	1.4891	1.4708	155-158	-160	-163	-175	1.4682	1.4690	1.4700	.....	.....
	52251	0.8658	0.36	1.4970	1.4700	152-156	-156	-158	-160	1.4683	1.4689	1.4695	.....	.....
	52252	0.8733	0.56	1.4701	1.4711	152-157	-160	-166	-184	1.4666	1.4681	1.4690	.....	.....
	52253	0.8624	0.48	1.4792	1.4700	154-157	-158	-160	-163	1.4683	1.4689	1.4699	.....	.....
	52254	0.8669	0.32	1.5040	1.4711	154-157	-158	-159	-163	1.4690	1.4694	1.4701	.....	.....
	52255	0.8545	1.60	1.4501	1.4663	155-162	-164	-170	-189	1.4649	1.4661	1.4663	.....	.....
	61847	0.8684	0.48	1.5048	1.4708	153-157	-158	-160	-167	1.4684	1.4691	1.4700	.....	.....
	61854	0.8648	0.72	1.5092	1.4711	154-158	-159	-160	-161	1.4693	1.4700	1.4709	.....	.....
Rocky Mountains.	61866	0.8654	0.40	1.5023	1.4719	154-157	-158	-159	-164	1.4699	1.4706	1.4710	.....	.....
	61867	0.8681	0.48	1.5048	1.4710	153-157	-158	-160	-164	1.4686	1.4696	1.4698	.....	.....
	61872	0.8004	6.83	1.4246	1.4420	100-133	-152	-169	-187	1.4208	1.4305	1.4451	.....	.....
	61875	0.8520	2.32	1.4498	1.4661	154-160	-164	-169	-194	1.4639	1.4656	1.4661	.....	.....
Vancouver.....	61876	0.8695	0.36	1.5080	1.4709	153-158	-159	-160	-165	1.4681	1.4691	1.4700	.....	.....
	61882	0.7977	7.84	1.4315	1.4411	145-157	-167	-179	-196	1.4371	1.4402	1.4447	.....	.....
	61883	0.8682	0.52	1.4649	1.4700	150-156	-158	-162	-169	1.4629	1.4680	1.4699	.....	.....
	61886	0.8780	0.32	1.4987	1.4729	153-160	-163	-167	-187	1.4680	1.4697	1.4706	.....	.....
	55348	0.8676	0.24	1.5030	1.4710	152-166	-157	-159	-164	1.4687	1.4698	1.4701	.....	.....
	55349	0.8542	1.68	1.4543	1.4667	153-159	-161	-166	-180	1.4651	1.4661	1.4670	.....	.....
	55350	0.8643	0.84	1.4568	1.4690	150-156	-160	-164	-181	1.4630	1.4676	1.4689	.....	.....
	55351	0.8567	0.76	1.4559	1.4660	147-153	-157	-159	-164	1.4579	1.4659	1.4679	.....	.....
	55352	0.8667	0.30	1.4903	1.4703	153-159	-160	-162	-165	1.4669	1.4690	1.4699	.....	.....
	55353	0.8284	5.48	1.4464	1.4543	147-163	-172	-191	-214	1.4453	1.4521	1.4562	.....	.....
	55354	0.8651	0.24	1.5039	1.4700	154-157	-157	-157	-161	1.4684	1.4688	1.4691	.....	.....
	55355	0.8668	0.54	1.4716	1.4695	148-156	-156	-160	-174	1.4620	1.4680	1.4699	.....	.....
55356	0.8340	7.00	1.4491	1.4581	147-169	-184	-205	-220	1.4442	1.4519	1.4582	.....	.....	
Victoria.....	66790	0.8713	0.50	1.4722	1.4702	150-159	-162	-168	-182	1.4631	1.4680	1.4700	.....	.....
	66791	0.8692	0.36	1.5002	1.4710	152-157	-157	-159	-164	1.4687	1.4697	1.4702	.....	.....
	66792	0.8700	0.36	1.5062	1.4711	154-157	-158	-159	-164	1.4689	1.4698	1.4701	.....	.....
	66793	0.8373	1.84	1.4649	1.4681	154-161	-164	-167	-181	1.4658	1.4668	1.4679	.....	.....
	66795	0.8503	2.30	1.4480	1.4648	155-159	-162	-169	-184	1.4639	1.4649	1.4653	.....	.....
	66797	0.8651	0.52	1.5040	1.4710	154-158	-160	-161	-167	1.4686	1.4690	1.4700	.....	.....
66799	0.8775	0.36	1.5008	1.4719	149-156	-157	-162	-184	1.4662	1.4688	1.4699	.....	.....	
66601	0.8639	0.36	1.5021	1.4704	154-157	-157	-158	-160	1.4690	1.4697	1.4703	.....	.....	
66603	0.8461	3.24	1.4523	1.4630	153-160	-160	-172	-187	1.4612	1.4633	1.4640	.....	.....	

PART I  
ANALYSIS20 C. of P.  
Residues.

IV

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