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DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS
WASHINGTON

Letter
Circular
LC 153

(February 7, 1925)

ABRIDGED VOLUME CORRECTION TABLE FOR PETROLEUM OILS
(For complete table, see Table 2, Circular 154)

Information Section
Bureau of Standards, Washington

The table contained herein has been prepared to meet a demand from the oil industry for a short and convenient table for reducing oil volumes to the basis of 60° F. when extreme accuracy is not required. It is not intended to replace the more complete and accurate volume correction table contained in Circular No. 154, but rather to supplement it and especially to replace the various abridged tables and approximate correction factors heretofore employed in the oil industry.

In case of disagreement between buyer and seller, or whenever high accuracy is essential the complete table contained in Circular No. 154 should be used, especially if large volumes or wide temperature ranges are involved.

The abridged table is based on the same data as Table 2, Circular No. 154. The groups, coefficients of expansion, degrees A.P.I., and gravity range of the abridged table follow:

Group Number	Coefficient of Expansion at 60°F.	Corresponding Degrees A.P.I.	Range of group (degrees A.P.I. at 60°F)
I	0.0004	22.5	10 to 34.9
II	.0005	44.5	35 to 50.9
III	.0006	57.1	51 to 63.9
IV	.0007	71.1	64 to 78.9
V	.0008	85.3	79 to 88.9
VI	.00085	91.3	89 and higher

This table shows the volume occupied at 60° F. by a quantity of oil occupying unit volume at the indicated temperatures. For example, if at 60° F. the A.P.I. gravity of the oil is 28, (Group I), one gallon of this oil measured at 120° F. will have a volume of 0.9762 gallons at 60° F. The values given in the table are in the form of "multipliers"; that is, the volume of oil at the indicated temperature and degrees A.P.I. for each group, multiplied by the corresponding factor in the table, equals the volume at 60° F. For example, if the A.P.I. gravity of an oil at 60° F. equals 28 (Group I) and the volume at 120° F. equals 6000 gallons, then the volume at 60° F. equals 6000 × 0.9762, or 5857.2 gallons.

1910
1911
1912

1913

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The following is a list of the names of the persons who have been admitted to the membership of the Society since the last meeting of the Council. The names are arranged in alphabetical order of their surnames. The names of those who have been admitted to the membership of the Society since the last meeting of the Council are as follows: (The text is extremely faint and largely illegible, appearing as a dense block of small characters.)

Observed tempera- ture in ° F.	Group					LC 153
	I	II	III	IV	V	VI
	10.0 to 34.9 Volume at 60°	35.0 to 50.9 F. Occupied by Unit	51.0 to 63.9 Volume	64.0 to 78.9 at 60° F.	79.0 to 88.9 Volume	89.0 and higher at Indicated Temperature.
0	1.0243	1.0299	1.0357	1.0416	1.0472	1.0503
1	1.0239	1.0294	1.0351	1.0409	1.0464	1.0495
2	1.0235	1.0289	1.0345	1.0402	1.0457	1.0486
3	1.0230	1.0284	1.0340	1.0395	1.0449	1.0478
4	1.0226	1.0279	1.0334	1.0388	1.0442	1.0469
5	1.0222	1.0274	1.0328	1.0381	1.0434	1.0461
6	1.0218	1.0269	1.0322	1.0374	1.0426	1.0453
7	1.0214	1.0264	1.0316	1.0367	1.0418	1.0444
8	1.0210	1.0259	1.0310	1.0361	1.0411	1.0435
9	1.0206	1.0254	1.0304	1.0354	1.0403	1.0427
10	1.0202	1.0249	1.0298	1.0347	1.0395	1.0419
11	1.0198	1.0244	1.0292	1.0340	1.0387	1.0411
12	1.0194	1.0239	1.0286	1.0333	1.0379	1.0403
13	1.0189	1.0234	1.0280	1.0326	1.0372	1.0394
14	1.0185	1.0229	1.0274	1.0319	1.0364	1.0386
15	1.0181	1.0224	1.0268	1.0312	1.0356	1.0378
16	1.0177	1.0219	1.0262	1.0305	1.0348	1.0370
17	1.0173	1.0214	1.0256	1.0298	1.0340	1.0361
18	1.0169	1.0209	1.0250	1.0291	1.0333	1.0353
19	1.0165	1.0204	1.0244	1.0284	1.0325	1.0344
20	1.0161	1.0199	1.0238	1.0277	1.0317	1.0336
21	1.0157	1.0194	1.0232	1.0270	1.0309	1.0328
22	1.0153	1.0189	1.0226	1.0263	1.0301	1.0320
23	1.0148	1.0185	1.0220	1.0257	1.0294	1.0311
24	1.0144	1.0180	1.0214	1.0250	1.0286	1.0303
25	1.0140	1.0175	1.0208	1.0243	1.0278	1.0295
26	1.0136	1.0170	1.0202	1.0236	1.0270	1.0287
27	1.0132	1.0165	1.0196	1.0229	1.0262	1.0278
28	1.0128	1.0160	1.0191	1.0223	1.0254	1.0270
29	1.0124	1.0155	1.0185	1.0216	1.0246	1.0261
30	1.0120	1.0150	1.0179	1.0209	1.0238	1.0253
31	1.0116	1.0145	1.0173	1.0202	1.0230	1.0245
32	1.0112	1.0140	1.0167	1.0195	1.0222	1.0237
33	1.0108	1.0135	1.0161	1.0188	1.0215	1.0228
34	1.0104	1.0130	1.0155	1.0181	1.0207	1.0220
35	1.0100	1.0125	1.0149	1.0174	1.0199	1.0212
36	1.0096	1.0120	1.0143	1.0167	1.0191	1.0204
37	1.0092	1.0115	1.0137	1.0160	1.0183	1.0195
38	1.0088	1.0109	1.0131	1.0153	1.0175	1.0187
39	1.0084	1.0104	1.0125	1.0146	1.0167	1.0178
40	1.0080	1.0099	1.0119	1.0139	1.0159	1.0170
41	1.0076	1.0094	1.0113	1.0132	1.0151	1.0161
42	1.0072	1.0089	1.0107	1.0125	1.0143	1.0153
43	1.0068	1.0084	1.0102	1.0119	1.0135	1.0144
44	1.0064	1.0079	1.0096	1.0112	1.0127	1.0136
45	1.0060	1.0074	1.0090	1.0105	1.0119	1.0127
46	1.0056	1.0069	1.0084	1.0098	1.0111	1.0118
47	1.0052	1.0064	1.0078	1.0091	1.0103	1.0110
48	1.0048	1.0059	1.0071	1.0083	1.0095	1.0101
49	1.0044	1.0054	1.0065	1.0076	1.0087	1.0093
50	1.0040	1.0049	1.0059	1.0069	1.0079	1.0084
51	1.0036	1.0044	1.0053	1.0062	1.0071	1.0076
52	1.0032	1.0039	1.0047	1.0055	1.0063	1.0067
53	1.0028	1.0035	1.0042	1.0049	1.0056	1.0059
54	1.0024	1.0030	1.0036	1.0042	1.0048	1.0050
55	1.0020	1.0025	1.0030	1.0035	1.0040	1.0042
56	1.0016	1.0020	1.0024	1.0028	1.0032	1.0034
57	1.0012	1.0015	1.0018	1.0021	1.0024	1.0025
58	1.0008	1.0010	1.0012	1.0014	1.0016	1.0017
59	1.0004	1.0005	1.0006	1.0007	1.0008	1.0008
60	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
61	.9996	.9995	.9994	.9993	.9992	.9992
62	.9992	.9990	.9988	.9986	.9984	.9983
63	.9988	.9985	.9983	.9979	.9977	.9975
64	.9984	.9980	.9977	.9972	.9969	.9966

Year	Month	Day	Event	Location	Notes
1901	Jan	1	...	...	...
1901	Jan	2	...	...	...
1901	Jan	3	...	...	...
1901	Jan	4	...	...	...
1901	Jan	5	...	...	...
1901	Jan	6	...	...	...
1901	Jan	7	...	...	...
1901	Jan	8	...	...	...
1901	Jan	9	...	...	...
1901	Jan	10	...	...	...
1901	Jan	11	...	...	...
1901	Jan	12	...	...	...
1901	Jan	13	...	...	...
1901	Jan	14	...	...	...
1901	Jan	15	...	...	...
1901	Jan	16	...	...	...
1901	Jan	17	...	...	...
1901	Jan	18	...	...	...
1901	Jan	19	...	...	...
1901	Jan	20	...	...	...
1901	Jan	21	...	...	...
1901	Jan	22	...	...	...
1901	Jan	23	...	...	...
1901	Jan	24	...	...	...
1901	Jan	25	...	...	...
1901	Jan	26	...	...	...
1901	Jan	27	...	...	...
1901	Jan	28	...	...	...
1901	Jan	29	...	...	...
1901	Jan	30	...	...	...
1901	Jan	31	...	...	...
1901	Feb	1	...	...	...
1901	Feb	2	...	...	...
1901	Feb	3	...	...	...
1901	Feb	4	...	...	...
1901	Feb	5	...	...	...
1901	Feb	6	...	...	...
1901	Feb	7	...	...	...
1901	Feb	8	...	...	...
1901	Feb	9	...	...	...
1901	Feb	10	...	...	...
1901	Feb	11	...	...	...
1901	Feb	12	...	...	...
1901	Feb	13	...	...	...
1901	Feb	14	...	...	...
1901	Feb	15	...	...	...
1901	Feb	16	...	...	...
1901	Feb	17	...	...	...
1901	Feb	18	...	...	...
1901	Feb	19	...	...	...
1901	Feb	20	...	...	...
1901	Feb	21	...	...	...
1901	Feb	22	...	...	...
1901	Feb	23	...	...	...
1901	Feb	24	...	...	...
1901	Feb	25	...	...	...
1901	Feb	26	...	...	...
1901	Feb	27	...	...	...
1901	Feb	28	...	...	...
1901	Feb	29	...	...	...
1901	Mar	1	...	...	...
1901	Mar	2	...	...	...
1901	Mar	3	...	...	...
1901	Mar	4	...	...	...
1901	Mar	5	...	...	...
1901	Mar	6	...	...	...
1901	Mar	7	...	...	...
1901	Mar	8	...	...	...
1901	Mar	9	...	...	...
1901	Mar	10	...	...	...
1901	Mar	11	...	...	...
1901	Mar	12	...	...	...
1901	Mar	13	...	...	...
1901	Mar	14	...	...	...
1901	Mar	15	...	...	...
1901	Mar	16	...	...	...
1901	Mar	17	...	...	...
1901	Mar	18	...	...	...
1901	Mar	19	...	...	...
1901	Mar	20	...	...	...
1901	Mar	21	...	...	...
1901	Mar	22	...	...	...
1901	Mar	23	...	...	...
1901	Mar	24	...	...	...
1901	Mar	25	...	...	...
1901	Mar	26	...	...	...
1901	Mar	27	...	...	...
1901	Mar	28	...	...	...
1901	Mar	29	...	...	...
1901	Mar	30	...	...	...
1901	Mar	31	...	...	...

Observed tempera- ture in ° F.	Group						Observed tempera- ture in ° F.	I II		
	I	II	III	IV	V	VI		I	II	
	Degrees 10.0 to 34.9 Volume	Degrees 35.0 to 50.9 at 60°	A.P.I. 51.0 to 63.9 F. Occupied by	at 60° F.. 64.0 to 78.9 Unit				and 89.0 to higher Volume	Degrees 10.0 to 34.9	A.P.I. 35.0 to 50.9	at 60°I
65	0.9980	0.9975	0.9971	0.9965	0.9961	0.9958	130	0.9723	0.9650	
66	.9976	.9970	.9965	.9958	.9953	.9949	131	.9719	.9645	
67	.9972	.9965	.9958	.9951	.9945	.9941	132	.9715	.9640	
68	.9968	.9961	.9952	.9944	.9936	.9932	133	.9712	.9635	
69	.9964	.9956	.9946	.9937	.9928	.9924	134	.9708	.9630	
70	.9960	.9951	.9940	.9930	.9920	.9915	135	.9704	.9625	
71	.9956	.9946	.9934	.9923	.9912	.9906	136	.9700	.9620	
72	.9952	.9941	.9928	.9916	.9904	.9897	137	.9696	.9615	
73	.9948	.9935	.9922	.9909	.9896	.9889	138	.9693	.9610	
74	.9944	.9930	.9916	.9902	.9888	.9880	139	.9689	.9605	
75	.9940	.9925	.9910	.9895	.9880	.9872	140	.9685	.9600	
76	.9936	.9920	.9904	.9888	.9872	.9863	141	.9681	.9595	
77	.9932	.9915	.9898	.9881	.9864	.9855	142	.9677	.9590	
78	.9929	.9910	.9893	.9874	.9855	.9846	143	.9674	.9585	
79	.9925	.9905	.9887	.9867	.9847	.9838	144	.9670	.9580	
80	.9921	.9900	.9881	.9860	.9839	.9829	145	.9666	.9575	
81	.9917	.9895	.9875	.9853	.9831	.9820	146	.9662	.9570	
82	.9913	.9890	.9869	.9846	.9823	.9812	147	.9658	.9565	
83	.9909	.9885	.9862	.9839	.9815	.9803	148	.9654	.9560	
84	.9905	.9880	.9856	.9832	.9807	.9795	149	.9650	.9555	
85	.9901	.9875	.9850	.9825	.9799	.9786	150	.9646	.9550	
86	.9897	.9870	.9844	.9818	.9791	.9778	151	.9642		
87	.9893	.9865	.9838	.9811	.9783	.9769	152	.9638		
88	.9889	.9860	.9832	.9804	.9775	.9761	153	.9635		
89	.9885	.9855	.9826	.9797	.9767	.9752	154	.9631		
90	.9881	.9850	.9820	.9790	.9759	.9744	155	.9627		
91	.9877	.9845	.9814				156	.9623		
92	.9873	.9840	.9808				157	.9619		
93	.9869	.9835	.9803				158	.9615		
94	.9865	.9830	.9797				159	.9611		
95	.9861	.9825	.9791				160	.9607		
96	.9857	.9820	.9785				161	.9603		
97	.9853	.9815	.9779				162	.9600		
98	.9849	.9811	.9772				163	.9596		
99	.9845	.9806	.9766				164	.9592		
100	.9841	.9801	.9760				165	.9588		
101	.9837	.9796	.9754				166	.9584		
102	.9833	.9791	.9748				167	.9580		
103	.9830	.9785	.9741				168	.9576		
104	.9826	.9780	.9735				169	.9572		
105	.9822	.9775	.9729				170	.9568		
106	.9818	.9770	.9723				171	.9564		
107	.9814	.9765	.9717				172	.9560		
108	.9810	.9760	.9711				173	.9557		
109	.9806	.9755	.9705				174	.9553		
110	.9802	.9750	.9699				175	.9549		
111	.9798	.9745	.9693				176	.9545		
112	.9794	.9740	.9687				177	.9541		
113	.9790	.9735	.9681				178	.9538		
114	.9786	.9730	.9675				179	.9534		
115	.9782	.9725	.9669				180	.9530		
116	.9778	.9720	.9663				181	.9526		
117	.9774	.9715	.9657				182	.9522		
118	.9770	.9710	.9651				183	.9519		
119	.9766	.9705	.9645				184	.9515		
120	.9762	.9700	.9639				185	.9511		
121	.9758	.9695	.9633				186	.9507		
122	.9754	.9690	.9627				187	.9503		
123	.9751	.9685	.9621				188	.9500		
124	.9747	.9680	.9615				189	.9496		
125	.9743	.9675	.9609				190	.9492		
126	.9739	.9670					191	.9488		
127	.9735	.9665					192	.9485		
128	.9731	.9660					193	.9481		
129	.9727	.9655					194	.9478		
							195	.9474		

