

Manual of Petroleum Measurement Standards Chapter 11.1—Volume Correction Factors

Volume XIII

**TABLE 5D—Generalized Lubricating Oils
Correction of Observed API Gravity to API
Gravity at 60°F**

**TABLE 6D—Generalized Lubricating Oils
Correction of Volume to 60°F Against API
Gravity at 60°F**

API STANDARD 2540 (1980)
FIRST EDITION, VOLUME XIII, JANUARY 1982

	American Petroleum Institute	API Std 2540
	Institute of Petroleum	IP 200
	American Society for Testing & Materials	ASTM D1250
	American National Standards Institute	ANSI/ASTM D1250

American Petroleum Institute
2101 L Street, Northwest
Washington, D.C. 20037



Manual of Petroleum Measurement Standards

Chapter 11.1—Volume Correction Factors

Volume XIII

**TABLE 5D—Generalized Lubricating Oils
Correction of Observed API Gravity to
API Gravity at 60°F**

**TABLE 6D—Generalized Lubricating Oils
Correction of Volume to 60°F Against
API Gravity at 60°F**

Measurement Coordination Department

API STANDARD 2540 (1980)
FIRST EDITION, VOLUME XIII, JANUARY 1982

American
Petroleum
Institute



Documents

Document Sharing Hub

These tables or the mathematical relationships represented thereby may be used by anyone desiring to do so, but the American Petroleum Institute, the American Society for Testing and Materials, and the Institute of Petroleum and their respective members and the U.S. National Bureau of Standards shall not be held responsible or liable in any way for loss or damage, including, but not limited to, consequential damage, resulting from such usage or for violation of any federal, state, or municipal laws, regulations, or practices of the United States or of any foreign country.

The tables included in this volume and the subroutines from which they were generated are voluntary standards and were developed under the auspices of the Joint API/ASTM Committee on Static Petroleum Measurement in part from data generated by a project funded by the American Petroleum Institute at the U.S. National Bureau of Standards, Gaithersburg, Maryland.

Inquiries concerning application of the tables or the computer subroutines should be addressed to:

American Petroleum Institute
Measurement Coordination Department
2101 L Street, N.W.
Washington, D.C. 20037

ISBN 0-89364-043-3

Copyright © 1981 American Petroleum Institute

CONTENTS

	PAGE
Introductory Information	
Foreword	v
Preface	vii
Officers of the Committee on Petroleum Measurement and the Joint API/ASTM Committee on Static Petroleum Measurement	ix
API Measurement Coordinators	x
Members of the COSM Physical Properties Working Group	x
Members of the Institute of Petroleum Measurement and Sampling Committee and the Calculation and Tables Subcommittee	xi

Manual of Petroleum Measurement Standards

Chapter 11—Physical Properties Data **Section 1—Volume Correction Factors**

Volume XIII

11.1.5	TABLE 5D—Correction of Observed API Gravity to API Gravity at 60°F	XIII-1
11.1.5.7	TABLE 5D—Generalized Lubricating Oils, Correction of Observed API Gravity to API Gravity at 60°F	XIII-1
	TABLE 5D (see Note)	XIII-3
11.1.6	TABLE 6D—Correction of Volume to 60°F Against API Gravity at 60°F	XIII-5
11.1.6.10	TABLE 6D—Generalized Lubricating Oils, Correction of Volume to 60°F Against API Gravity at 60°F	XIII-5
	TABLE 6D (see Note)	XIII-7
	Appendix A—Subroutine TAB5D	XIII-9
	Appendix B—Subroutine TAB6D	XIII-15

Note to User: Both TABLES 5D and 6D are internally numbered beginning with page 1. The actual table begins after the page noted in the contents.

FOREWORD

The Objectives

The complete collection of the jointly issued API/ASTM-IP tables of which this volume is a part is the result of close cooperation between the American Petroleum Institute (API), the Institute of Petroleum (London) (IP), and the American Society for Testing and Materials (ASTM). The overall objective of this effort was to meet the worldwide need for a uniform and authoritative publication, based on the most accurate information available. This publication serves as a basis for standardized calculations of measured quantities of petroleum fluids regardless of point of origin, destination, or units of measure used by custom or statute. To meet the objective of worldwide standardized measurement practices, the American National Standards Institute (ANSI) and the British Standards Institute (BSI) have also been closely involved nationally, resulting in the acceptance of the revised tables as an American National Standard and as a British Standard. In addition, in their respective capacities as Secretariat of the International Organization for Standardization TC/28 and of TC/28 SC3, ANSI and BSI have been instrumental in progressing the revised tables towards their adoption as an international standard by the International Organization for Standardization.

Historical Notes

The present collection supersedes all previous editions of the petroleum measurement Tables ANSI/ASTM D1250, IP200, and API Standard 2540. Action is being taken in ISO/TC 28 for the corresponding tables listed in ISO R91 and the tables in the addendum to R91 to be superseded by the present revised collection.

In view of the progress of metrication in countries formerly using the British system of weights and measures, demand for the revision of the British edition does not justify the considerable work involved. The present edition will therefore be withdrawn on the same date as the corresponding metric and American editions are published and will not be replaced.

For the metric edition the new standard covers products with densities in the range 610.0 to 1076.0 kg/m³. The tables for densities below this range, covering liquefied petroleum gases, have not been revised.

The original tables, which were developed in the late 1940s, were based on the 1916 data of Bearce and Pepper (1916) and represent thirty years of evolution. The history of this evolution is summarized by Hall et al. (1975).

Present Development

Downer and Inkley (1972) demonstrated that the original tables were not satisfactory representations of many petroleum fluids of current importance. In 1974 the American Petroleum Institute (API) and the United States National Bureau of Standards (NBS) initiated a research program funded by the API which intended to provide the solid scientific base for the development of more accurate, consequently more equitable, measurement tables. The result of this program was precise density data on 349 different fluids representing a wide variety of refined products and 66.8 percent of the world crude production in 1974. The completion of this five-year, \$500,000 project in March 1979 opened the way for modernizing the tables. Using the NBS density data and taking advantage of publications of outstanding technical authorities, a Joint API-ASTM Physical Properties Working

Group produced this present collection of the Petroleum Measurement Tables. The development and results of the work are described by Hankinson et al. (1979).

Conceptual Departure

A major conceptual departure from previous versions is inherent in the recognition of the present and future position of computers in the petroleum industry. The actual Standard represented by this volume and the companion volumes is neither the hardcopy printed tables nor the set of equations used to represent the density data but is an explicit implementation procedure used to develop computer subroutines. The standardization of an implementation procedure implies the standardization of the set of mathematical expressions, including calculational sequence and round-off procedures, used within the computer code. Absolute adherence to the outlined procedures will ensure that all computers and computer codes of the future, meeting the stated specifications and restrictions, will be able to produce identical results. Hence, the published implementation procedures are the primary Standard, the distributed subroutines are the secondary standard, and the published tables are produced for convenience.

Acknowledgments

The task of completing this project could not have been accomplished without many substantial contributions by a considerable number of individuals and companies. It is impossible to single out any specific individuals for special mention. However, included in the introductory material are lists of the officers of the API's Committee on Petroleum Measurement (COPM), the officers of the Joint API/ASTM Committee on Static Petroleum Measurement (COSM), the major contributors from the Institute of Petroleum, and the members of the COSM Physical Properties Working Group. A special acknowledgment must be given to the Institute of Petroleum (IP) for their work in developing Volumes XI and XII.

References

- Bearce, H. W., and E. L. Peffer, "Technology Papers of National Bureau of Standards—Density and Thermal Expansion of American Petroleum Oils," GPO, pp. 125–154, Washington, DC, 1916.
- Downer, L., and F. A. Inkley, *Oil and Gas Journal*, Vol. 70, No. 25, p. 52–55, June 19, 1972.
- Hall, A. H., J. A. Simpson, and J. R. Whetstone, "Investigation of Densities and Thermal Expansion Coefficients Applicable to Petroleum Measurement," SP 7, World Petroleum Congress, Tokyo, 1975.
- Hankinson, R. W., R. G. Segers, T. Krolikowski Buck, and F. P. Gielzecki, *Oil and Gas Journal*, Vol. 77, No. 52, p. 66–70, December 24, 1979.
- Hankinson, R. W., T. A. Coker, K. I. West, R. G. Segers, F. P. Gielzecki, and M. A. Plummer, "Volume Correction Factors for Lubricating Oils," *Oil and Gas Journal*, p. 297, September 28, 1981.

PREFACE

The Petroleum Measurement Tables, Volume Correction Factors (Volumes I through XIV), are, with this edition, incorporated into API's *Manual of Petroleum Measurement Standards*. These tables form Section 1 of Chapter 11, "Physical Properties Data." To simplify the transition from the American Society for Testing and Materials' (ASTM) publication of the original tables to API's publication in 1980, the original ASTM numerical designations have been retained for the individual tables.

The numbering system used throughout Volumes I through XIV corresponds to the numbering system of the *Manual of Petroleum Measurement Standards*. The system consists of a series of fields separated by decimal points. The first two fields (11.1) indicate chapter and section of the manual; the third field gives the ASTM table number. Therefore, although not serial, 11.1.5, 11.1.6, 11.1.23, 11.1.24, 11.1.53, and 11.1.54 are the major headings used. All other headings are subordinate to the three field headings.

Volumes I through IX and Volumes XIII and XIV, which are designed for field use, are arranged on a functional basis rather than on a topical basis.

First Series—Volumes I, II, and III

These three volumes contain TABLES 5 and 6, the tables for the °API, °F, 60°F base series, plus examples to guide the user. Each volume contains specific data as follows:

- Volume I —Generalized Crude Oils (TABLES 5A and 6A)
- Volume II —Generalized Products (TABLES 5B and 6B)
- Volume III —Individual and Special Applications (TABLE 6C) and an appendix describing the equations and constants used and the densities and coefficients of thermal expansion of each NBS sample.

Second Series—Volumes IV, V, and VI

These three volumes contain TABLES 23 and 24, the tables for the relative density, °F, 60°F base series, plus examples to guide the user. Each volume contains specific data as follows:

- Volume IV —Generalized Crude Oils (TABLES 23A and 24A)
- Volume V —Generalized Products (TABLES 23B and 24B)
- Volume VI —Individual and Special Applications (TABLE 24C) and an appendix describing the equations and constants used and the densities and coefficients of thermal expansion of each NBS sample.

Third Series—Volumes VII, VIII, and IX

These three volumes contain TABLES 53 and 54, the tables for the kilogram per cubic metre, °C, 15°C base series, plus examples to guide the user. Each volume contains specific data as follows:

- Volume VII —Generalized Crude Oils (TABLES 53A and 54A)
- Volume VIII—Generalized Products (TABLES 53B and 54B)
- Volume IX —Individual and Special Applications (TABLE 54C) and an appendix describing the equations and constants used and the densities and coefficients of thermal expansion for each NBS sample.

Background, Development and Program Documentation—Volume X

Volume X provides a complete breakdown of the Petroleum Measurement Tables, Volume Correction Factors, and references appropriate volumes for the location of specific tables. Volume X is the key volume of the entire set and contains the actual

Standard, the implementation procedures, and the instructions for the use of the computer subroutines. The history and development of the project are also included in Volume X under 11.1.6.

Volume XI and XII—Subsidiary Tables

These tables, which contain conversion factors and other subsidiary data, include TABLES 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 21, 22, 26, 27, 28, 29, 30, 31, 51, 52, and 58. These tables have been updated to reflect current SI practice, as well as the influence of the new volume correction factor data. Tables 33 and 34 are also included, however, without change. Volumes XI and XII are available only from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

Volumes XIII and XIV—Lubricating Oils

The research project that culminated in the volume correction tables for the lubricating oils was carried out over a different timetable than the first ten volumes of Chapter 11.1. Therefore Volume X does not provide a key to Volumes XIII and XIV. Volume XIII would have fallen in the first series, the tables for the °API, °F, 60°F base series, and Volume XIV would have fallen in the third series, the tables for the kilogram per cubic metre, °C, 15°C base series.

Volume XIII and XIV are completely self-contained and cover the following specific data.

Volume XIII—Generalized Lubricating Oils (TABLES 5D and 6D)

Volume XIV—Generalized Lubricating Oils (TABLES 53D and 54D)

The computer subroutines for TABLES 5D and 6D are contained in Volume XIII, and the computer subroutines for TABLES 53D and 54D are contained in Volume XIV. The implementation procedures used to develop the subroutines conform in all respects to the Standard presented in Volume X. The data sources and techniques used to derive the tables are available in Hankinson, et al, "Volume Correction Factors for Lubricating Oils," the last reference listed in the forward in this volume.

Inquiries concerning the application of the tables or the computer subroutines should be addressed to—

American Petroleum Institute
Measurement Coordination Department
2101 L Street, N.W.
Washington, D.C. 20037

**OFFICERS OF THE COMMITTEE ON
PETROLEUM MEASUREMENT AND
THE JOINT API/ASTM COMMITTEE ON
STATIC PETROLEUM MEASUREMENT
AT SIGNIFICANT MILESTONES
IN THE DEVELOPMENT OF THE
PETROLEUM MEASUREMENT TABLES**

1972	Chairman	COPM	C. Webber Sun Oil Company
	Chairman	COSM	R. A. Hartmann Exxon Corporation
1974	Chairman	COPM	A. H. Hall Shell Oil Company
	Chairman	COSM	T. L. Hillburn Phillips Petroleum Company
	Chairman	API/NBS Project Committee	R. F. Meeker Texaco Inc.
1976	Chairman	COPM	R. A. Hartmann Exxon Corporation
	Chairman	COSM	T. L. Hillburn Phillips Petroleum Company
1978	Chairman	COPM	B. Messer, Jr. Mobil Research and Development Corporation
	Chairman	COSM	T. L. Hillburn Phillips Petroleum Company
	ISO Advisor	COPM	R. A. Hartmann Exxon Corporation
1979	Chairman	COPM	B. Messer, Jr. Mobil Research and Development Corporation
	Chairman	COSM	W. D. Fulton Explorer Pipeline Company
	Legal Advisor	COPM	B. S. Tharp Atlantic Richfield Company
	ISO Advisor	COPM	R. A. Hartmann Exxon Corporation
	Chairman	Physical Proper- ties Working Group, COSM	R. W. Hankinson Phillips Petroleum Company
1980	Chairman	COPM	K. E. Bailey Williams Pipeline Company
	Chairman	COSM	C. M. Owen SOHIO Pipe Line Company
	Legal Advisor	COPM	B. S. Tharp Atlantic Richfield Company
	ISO Advisor	COPM	R. A. Hartmann Exxon Corporation
	Chairman	Table 6 Task Force, COSM	R. W. Hankinson Phillips Petroleum Company

**API MEASUREMENT COORDINATORS
DURING THE PROJECT DEVELOPMENT
AND IMPLEMENTATION**

1974-1978
1978-Present

W. N. Seward
J. K. Walters

**MEMBERS OF THE COSM
PHYSICAL PROPERTIES WORKING GROUP
ACTIVE IN THE DEVELOPMENT EFFORT**

Kurt A. Beyreis
Mobil Sales and Supply

Judith J. Bigby
Phillips Petroleum Company

Theresa Krolikowski Buck
Union Carbide Corporation

Marshall C. Clegg
Standard Oil Company of California

Terry A. Coker
Phillips Petroleum Company

Howard M. Davis, Jr.
Marathon Pipeline Company

Frank P. Gielzecki
Imperial Oil, Ltd.

Risdon W. Hankinson (Chairman,
Working Group)
Phillips Petroleum Company

Raymond M. Henry
Gulf Research and Development
Company

Clyde M. Owen (Vice-Chairman,
COSM)
SOHIO Pipe Line Company

Mark A. Plummer
Marathon Oil Company

C. Steven Pringle
Texas Eastern Corporation

Richard G. Segers
Exxon Corporation

Gerald W. Singletary
Texas Eastern Corporation

James K. Walters
American Petroleum Institute

Karen I. West
Mobil Research and Development
Corporation

L. D. Wiener
Mobil Research and Development
Corporation

Gael Williams (now retired)
Standard Oil Company of California

E. K. Van Horne
Mobil Oil Corporation

**MEMBERS OF THE INSTITUTE OF PETROLEUM
MEASUREMENT AND SAMPLING COMMITTEE AND THE
CALCULATION AND TABLES SUBCOMMITTEE
ACTIVE IN THE DEVELOPMENT OF THE PETROLEUM
MEASUREMENT TABLES**

J.R. Spencer	Chairman, Measurement and Sampling Committee	British Petroleum, Ltd.
B.C. Ferguson	Past-Chairman, Measurement and Sampling Committee Chairman, ISO TC/28 SC3	Caleb Brett, Ltd.
L. Downer	Chairman, Institute of Petroleum Tables Subcommittee	British Petroleum Research
B. O'Shaughnessy		British Petroleum Research
O.W. Molony		British Standards Institution
P.D. O'Connell		Institute of Petroleum

COPM—API Committee on Petroleum Measurement

COSM—Joint API/ASTM Subcommittee on Static Petroleum Measurement

NBS—U.S. National Bureau of Standards

ISO—International Organization for Standardization

Chapter 11—Physical Properties Data

SECTION 1—VOLUME CORRECTION FACTORS

11.1.5 TABLE 5D—Correction of Observed API Gravity to API Gravity at 60°F

11.1.5.7 TABLE 5D—GENERALIZED LUBRICATING OILS, CORRECTION OF OBSERVED API GRAVITY TO API GRAVITY AT 60°F

TABLE 5D gives the values of API gravity at 60°F corresponding to an hydrometer reading at observed temperatures other than 60°F. In converting the hydrometer reading at the observed temperature to the corresponding API gravity at 60°F, two corrections are necessary: the first arises from the change in volume of the glass hydrometer with temperature (stem correction) and the second from the change in volume of the lubricating oil with temperature. Both have been applied in the printed table. The values of API gravity at 60°F in this table are the result of a computer procedure which is the Standard (see Appendix A for the TABLE 5D subroutine listing).

The temperature ranges of this table are:

°API	°F
-10 to 45	0 to 300

The values of API gravity at 60°F given in this table are based on data from the U.S. National Bureau of Standards, Suntech Group of the Sun Refining and Marketing Company, and other published sources. Extension of the table beyond the ranges shown is not recommended.

Increments used in this table for determining API gravity at 60°F are 1.0°F and 0.5°API. Interpolation with temperature is not intended since there is no practical method of interpolation that will produce the accuracy obtainable from the Standard computer procedure. However, interpolation with gravity to one additional significant digit can be reasonably made. Interpolation is not required if the TABLE 5D results are to be used as entries to TABLE 6D.

This table must be entered with an hydrometer reading measured with a soft glass hydrometer calibrated at 60°F and with an observed temperature.

A correction to the glass hydrometer reading has been incorporated into the table to account for the thermal expansion of glass. The hydrome-

ter constant, as defined in the *Report on the Development, Construction, Calculation, and Preparation of the ASTM-IP Petroleum Measurement Tables* (1960), varies with temperature according to the following:

$$\text{HYC} = 1 - 0.00001278(t - 60^\circ\text{F}) - 0.000000062(t - 60^\circ\text{F})^2$$

Example 1

If the hydrometer reading for a lubricating oil at 146°F is 12.5°API, what is the API gravity of the lubricating oil corrected to 60°F?

Enter the table in the column "API Gravity at Observed Temperature," headed 12.5°API. Read down to an observed "Temperature" of 146°F. The corresponding API gravity at 60°F is 8.3°API.

Example 2

If the hydrometer reading for a lubricating oil at 105.0°F is 28.7°API, what is the API gravity of the lubricating oil corrected to 60°F?

Round 28.7°API to 28.5°API, the nearest 0.5°API increment. Since the result is to be used as an input to TABLE 6D, interpolation is not required. Enter the table in the column "API Gravity at Observed Temperature," headed 28.5°API. Read down to an observed "Temperature" of 105°F. The corresponding API gravity at 60°F is 25.8°API.

Example 3

If the hydrometer reading for a lubricating oil at 95.4°F is 37.5°API, what is the API gravity of the lubricating oil corrected to 60°F?

1. Enter the table in the column "API Gravity at Observed Temperature," headed 37.0°API. Read down to an observed "Temperature" of 95°F. The corresponding API gravity at 60°F is 34.6°API.
2. Likewise note that for 37.5°API, the corresponding API gravity at 60°F is 35.1°API.
3. Interpolate on gravity

$$\begin{aligned} (35.1 - 34.6)/(37.5 - 37) &= 1.0 \\ 1.0 * (37.2 - 37) &= 0.2 \end{aligned}$$

4. Then, the gravity at 60°F corresponding to 37.5°API at 95°F is 34.6 plus 0.2 or 34.8°API

(Text continues on page XIV-5 following TABLE 5D.)

API/ASTM-IP PETROLEUM MEASUREMENT TABLES

TABLE 5D--GENERALIZED LUBRICATING OILS

API GRAVITY CORRECTION TO 60 DEGREES F

THIS TABLE AND THE SUBROUTINE FROM WHICH IT WAS GENERATED IS A VOLUNTARY STANDARD AND WAS DEVELOPED UNDER THE AUSPICES OF THE JOINT API/ASTM COMMITTEE ON STATIC PETROLEUM MEASUREMENT IN PART FROM DATA GENERATED BY A PROJECT FUNDED BY THE AMERICAN PETROLEUM INSTITUTE AT THE U.S. NATIONAL BUREAU OF STANDARDS, GAITHERSBURG, MARYLAND.

INQUIRIES CONCERNING ITS APPLICATION SHOULD BE ADDRESSED TO:

AMERICAN PETROLEUM INSTITUTE
MEASUREMENT COORDINATION DEPARTMENT
2101 L STREET, N.W.
WASHINGTON, D.C. 20037

*
* THIS TABLE OR THE MATHEMATICAL RELATIONSHIPS *
* REPRESENTED THEREBY MAY BE USED BY ANYONE WISHING *
* TO DO SO, BUT THE AMERICAN PETROLEUM INSTITUTE, *
* THE AMERICAN SOCIETY FOR TESTING AND MATERIALS, *
* AND THE INSTITUTE OF PETROLEUM AND THEIR *
* RESPECTIVE MEMBERS AND THE U.S. NATIONAL BUREAU *
* OF STANDARDS, SHALL NOT BE HELD RESPONSIBLE OR *
* LIABLE IN ANY WAY FROM LOSS OR DAMAGE, INCLUDING, *
* BUT NOT LIMITED TO, CONSEQUENTIAL DAMAGE, *
* RESULTING FROM SUCH USAGE OR FOR VIOLATION OF *
* ANY FEDERAL, STATE OR MUNICIPAL LAWS, REGULATIONS *
* OR PRACTICES OF THE UNITED STATES OR OF ANY *
* FOREIGN COUNTRY *
*

THIS TABLE MUST BE ENTERED WITH API GRAVITIES MEASURED WITH A SOFT GLASS HYDROMETER OR PYKNOMETER CALIBRATED AT 60 DEGREES F.

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F									TEMP. F	
	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0		-5.5
0	-7.9	-7.4	-6.9	-6.3	-5.8	-5.3	-4.8	-4.3	-3.7	-3.2	0
1	-7.9	-7.4	-6.9	-6.4	-5.9	-5.3	-4.8	-4.3	-3.8	-3.3	1
2	-8.0	-7.4	-6.9	-6.4	-5.9	-5.4	-4.9	-4.3	-3.8	-3.3	2
3	-8.0	-7.5	-7.0	-6.4	-5.9	-5.4	-4.9	-4.4	-3.9	-3.3	3
4	-8.0	-7.5	-7.0	-6.5	-6.0	-5.4	-4.9	-4.4	-3.9	-3.4	4
5	-8.1	-7.6	-7.0	-6.5	-6.0	-5.5	-5.0	-4.5	-3.9	-3.4	5
6	-8.1	-7.6	-7.1	-6.6	-6.0	-5.5	-5.0	-4.5	-4.0	-3.5	6
7	-8.1	-7.6	-7.1	-6.6	-6.1	-5.6	-5.0	-4.5	-4.0	-3.5	7
8	-8.2	-7.7	-7.1	-6.6	-6.1	-5.6	-5.1	-4.6	-4.1	-3.5	8
9	-8.2	-7.7	-7.2	-6.7	-6.2	-5.6	-5.1	-4.6	-4.1	-3.6	9
10	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	-5.2	-4.6	-4.1	-3.6	10
11	-8.3	-7.8	-7.3	-6.7	-6.2	-5.7	-5.2	-4.7	-4.2	-3.7	11
12	-8.3	-7.8	-7.3	-6.8	-6.3	-5.7	-5.2	-4.7	-4.2	-3.7	12
13	-8.4	-7.8	-7.3	-6.8	-6.3	-5.8	-5.3	-4.8	-4.2	-3.7	13
14	-8.4	-7.9	-7.4	-6.8	-6.3	-5.8	-5.3	-4.8	-4.3	-3.8	14
15	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	-5.3	-4.8	-4.3	-3.8	15
16	-8.5	-7.9	-7.4	-6.9	-6.4	-5.9	-5.4	-4.9	-4.4	-3.8	16
17	-8.5	-8.0	-7.5	-7.0	-6.4	-5.9	-5.4	-4.9	-4.4	-3.9	17
18	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	-4.9	-4.4	-3.9	18
19	-8.6	-8.1	-7.5	-7.0	-6.5	-6.0	-5.5	-5.0	-4.5	-4.0	19
20	-8.6	-8.1	-7.6	-7.1	-6.6	-6.0	-5.5	-5.0	-4.5	-4.0	20
21	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	-5.6	-5.1	-4.5	-4.0	21
22	-8.7	-8.2	-7.7	-7.1	-6.6	-6.1	-5.6	-5.1	-4.6	-4.1	22
23	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.6	-5.1	-4.6	-4.1	23
24	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	-5.2	-4.7	-4.1	24
25	-8.8	-8.3	-7.8	-7.2	-6.7	-6.2	-5.7	-5.2	-4.7	-4.2	25
26	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	-5.2	-4.7	-4.2	26
27	-8.9	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	-5.3	-4.8	-4.3	27
28	-8.9	-8.4	-7.9	-7.4	-6.8	-6.3	-5.8	-5.3	-4.8	-4.3	28
29	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	-5.4	-4.8	-4.3	29
30	-9.0	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	-5.4	-4.9	-4.4	30
31	-9.0	-8.5	-8.0	-7.5	-7.0	-6.4	-5.9	-5.4	-4.9	-4.4	31
32	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	-5.0	-4.5	32
33	-9.1	-8.6	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	-5.0	-4.5	33
34	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	-5.5	-5.0	-4.5	34
35	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	-5.6	-5.1	-4.6	35
36	-9.2	-8.7	-8.2	-7.6	-7.1	-6.6	-6.1	-5.6	-5.1	-4.6	36
37	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	-5.1	-4.6	37
38	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	-5.2	-4.7	38
39	-9.3	-8.8	-8.3	-7.8	-7.2	-6.7	-6.2	-5.7	-5.2	-4.7	39
40	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	-5.3	-4.8	40
41	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	-5.3	-4.8	41
42	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.3	-5.8	-5.3	-4.8	42
43	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	-5.4	-4.9	43
44	-9.5	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	-5.4	-4.9	44
45	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.4	-4.9	45
46	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	-5.0	46
47	-9.6	-9.1	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	-5.0	47
48	-9.6	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	-5.6	-5.1	48
49	-9.6	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	-5.6	-5.1	49
50	-9.7	-9.2	-8.7	-8.2	-7.6	-7.1	-6.6	-6.1	-5.6	-5.1	50

API GRAVITY = -10.0 TO -5.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	
50	-9.7	-9.2	-8.7	-8.2	-7.6	-7.1	-6.6	-6.1	-5.6	-5.1	50
51	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	-5.2	51
52	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	-5.2	52
53	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.7	-5.2	53
54	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	-5.3	54
55	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	-5.3	55
56	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	-5.4	56
57	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	-5.4	57
58	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	-5.4	58
59	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	59
60	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	60
61	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	61
62	-	-9.6	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	-5.6	62
63	-	-9.6	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	-5.6	63
64	-	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	64
65	-	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	65
66	-	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	-5.7	66
67	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	67
68	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	68
69	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	-5.8	69
70	-	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	70
71	-	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	-5.9	71
72	-	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-7.0	-6.5	-6.0	72
73	-	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	73
74	-	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	74
75	-	-10.0	-9.5	-9.0	-8.5	-8.1	-7.6	-7.1	-6.6	-6.1	75
76	-	-	-9.6	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	76
77	-	-	-9.6	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	-6.1	77
78	-	-	-9.6	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	78
79	-	-	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	-6.2	79
80	-	-	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	-6.8	-6.3	80
81	-	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	81
82	-	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	-6.3	82
83	-	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.4	-6.9	-6.4	83
84	-	-	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	84
85	-	-	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	-6.4	85
86	-	-	-9.9	-9.4	-8.9	-8.5	-8.0	-7.5	-7.0	-6.5	86
87	-	-	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	87
88	-	-	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.6	88
89	-	-	-10.0	-9.5	-9.0	-8.6	-8.1	-7.6	-7.1	-6.6	89
90	-	-	-10.1	-9.6	-9.1	-8.6	-8.1	-7.6	-7.1	-6.6	90
91	-	-	-	-9.6	-9.1	-8.6	-8.1	-7.6	-7.2	-6.7	91
92	-	-	-	-9.6	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	92
93	-	-	-	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	-6.7	93
94	-	-	-	-9.7	-9.2	-8.7	-8.2	-7.8	-7.3	-6.8	94
95	-	-	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.8	95
96	-	-	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	-6.9	96
97	-	-	-	-9.8	-9.3	-8.8	-8.4	-7.9	-7.4	-6.9	97
98	-	-	-	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	-6.9	98
99	-	-	-	-9.9	-9.4	-8.9	-8.4	-7.9	-7.5	-7.0	99
100	-	-	-	-9.9	-9.4	-9.0	-8.5	-8.0	-7.5	-7.0	100

API GRAVITY = -10.0 TO -5.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	
100	-	-	-	-9.9	-9.4	-9.0	-8.5	-8.0	-7.5	-7.0	100
101	-	-	-	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	101
102	-	-	-	-10.0	-9.5	-9.0	-8.5	-8.0	-7.6	-7.1	102
103	-	-	-	-10.0	-9.5	-9.1	-8.6	-8.1	-7.6	-7.1	103
104	-	-	-	-	-9.6	-9.1	-8.6	-8.1	-7.6	-7.1	104
105	-	-	-	-	-9.6	-9.1	-8.6	-8.2	-7.7	-7.2	105
106	-	-	-	-	-9.7	-9.2	-8.7	-8.2	-7.7	-7.2	106
107	-	-	-	-	-9.7	-9.2	-8.7	-8.2	-7.7	-7.3	107
108	-	-	-	-	-9.7	-9.2	-8.8	-8.3	-7.8	-7.3	108
109	-	-	-	-	-9.8	-9.3	-8.8	-8.3	-7.8	-7.3	109
110	-	-	-	-	-9.8	-9.3	-8.8	-8.3	-7.9	-7.4	110
111	-	-	-	-	-9.8	-9.3	-8.9	-8.4	-7.9	-7.4	111
112	-	-	-	-	-9.9	-9.4	-8.9	-8.4	-7.9	-7.4	112
113	-	-	-	-	-9.9	-9.4	-8.9	-8.4	-8.0	-7.5	113
114	-	-	-	-	-9.9	-9.4	-9.0	-8.5	-8.0	-7.5	114
115	-	-	-	-	-10.0	-9.5	-9.0	-8.5	-8.0	-7.6	115
116	-	-	-	-	-10.0	-9.5	-9.0	-8.6	-8.1	-7.6	116
117	-	-	-	-	-10.0	-9.6	-9.1	-8.6	-8.1	-7.6	117
118	-	-	-	-	-	-9.6	-9.1	-8.6	-8.1	-7.7	118
119	-	-	-	-	-	-9.6	-9.1	-8.7	-8.2	-7.7	119
120	-	-	-	-	-	-9.7	-9.2	-8.7	-8.2	-7.7	120
121	-	-	-	-	-	-9.7	-9.2	-8.7	-8.3	-7.8	121
122	-	-	-	-	-	-9.7	-9.3	-8.8	-8.3	-7.8	122
123	-	-	-	-	-	-9.8	-9.3	-8.8	-8.3	-7.8	123
124	-	-	-	-	-	-9.8	-9.3	-8.8	-8.4	-7.9	124
125	-	-	-	-	-	-9.8	-9.4	-8.9	-8.4	-7.9	125
126	-	-	-	-	-	-9.9	-9.4	-8.9	-8.4	-8.0	126
127	-	-	-	-	-	-9.9	-9.4	-8.9	-8.5	-8.0	127
128	-	-	-	-	-	-9.9	-9.5	-9.0	-8.5	-8.0	128
129	-	-	-	-	-	-10.0	-9.5	-9.0	-8.5	-8.1	129
130	-	-	-	-	-	-10.0	-9.5	-9.1	-8.6	-8.1	130
131	-	-	-	-	-	-10.1	-9.6	-9.1	-8.6	-8.1	131
132	-	-	-	-	-	-	-9.6	-9.1	-8.7	-8.2	132
133	-	-	-	-	-	-	-9.6	-9.2	-8.7	-8.2	133
134	-	-	-	-	-	-	-9.7	-9.2	-8.7	-8.2	134
135	-	-	-	-	-	-	-9.7	-9.2	-8.8	-8.3	135
136	-	-	-	-	-	-	-9.7	-9.3	-8.8	-8.3	136
137	-	-	-	-	-	-	-9.8	-9.3	-8.8	-8.4	137
138	-	-	-	-	-	-	-9.8	-9.3	-8.9	-8.4	138
139	-	-	-	-	-	-	-9.9	-9.4	-8.9	-8.4	139
140	-	-	-	-	-	-	-9.9	-9.4	-8.9	-8.5	140
141	-	-	-	-	-	-	-9.9	-9.4	-9.0	-8.5	141
142	-	-	-	-	-	-	-10.0	-9.5	-9.0	-8.5	142
143	-	-	-	-	-	-	-10.0	-9.5	-9.0	-8.6	143
144	-	-	-	-	-	-	-10.0	-9.6	-9.1	-8.6	144
145	-	-	-	-	-	-	-10.1	-9.6	-9.1	-8.6	145
146	-	-	-	-	-	-	-	-9.6	-9.2	-8.7	146
147	-	-	-	-	-	-	-	-9.7	-9.2	-8.7	147
148	-	-	-	-	-	-	-	-9.7	-9.2	-8.8	148
149	-	-	-	-	-	-	-	-9.7	-9.3	-8.8	149
150	-	-	-	-	-	-	-	-9.8	-9.3	-8.8	150

API GRAVITY = -10.0 TO -5.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-10.0	-9.5	-9.0	-8.5	-8.0	-7.5	-7.0	-6.5	-6.0	-5.5	
150	-	-	-	-	-	-	-	-9.8	-9.3	-8.8	150
151	-	-	-	-	-	-	-	-9.8	-9.3	-8.9	151
152	-	-	-	-	-	-	-	-9.8	-9.4	-8.9	152
153	-	-	-	-	-	-	-	-9.9	-9.4	-8.9	153
154	-	-	-	-	-	-	-	-9.9	-9.4	-9.0	154
155	-	-	-	-	-	-	-	-9.9	-9.5	-9.0	155
156	-	-	-	-	-	-	-	-10.0	-9.5	-9.0	156
157	-	-	-	-	-	-	-	-10.0	-9.5	-9.1	157
158	-	-	-	-	-	-	-	-10.1	-9.6	-9.1	158
159	-	-	-	-	-	-	-	-	-9.6	-9.1	159
160	-	-	-	-	-	-	-	-	-9.7	-9.2	160
161	-	-	-	-	-	-	-	-	-9.7	-9.2	161
162	-	-	-	-	-	-	-	-	-9.7	-9.3	162
163	-	-	-	-	-	-	-	-	-9.8	-9.3	163
164	-	-	-	-	-	-	-	-	-9.8	-9.3	164
165	-	-	-	-	-	-	-	-	-9.8	-9.4	165
166	-	-	-	-	-	-	-	-	-9.9	-9.4	166
167	-	-	-	-	-	-	-	-	-9.9	-9.4	167
168	-	-	-	-	-	-	-	-	-9.9	-9.5	168
169	-	-	-	-	-	-	-	-	-10.0	-9.5	169
170	-	-	-	-	-	-	-	-	-10.0	-9.5	170
171	-	-	-	-	-	-	-	-	-10.0	-9.6	171
172	-	-	-	-	-	-	-	-	-	-9.6	172
173	-	-	-	-	-	-	-	-	-	-9.6	173
174	-	-	-	-	-	-	-	-	-	-9.7	174
175	-	-	-	-	-	-	-	-	-	-9.7	175
176	-	-	-	-	-	-	-	-	-	-9.8	176
177	-	-	-	-	-	-	-	-	-	-9.8	177
178	-	-	-	-	-	-	-	-	-	-9.8	178
179	-	-	-	-	-	-	-	-	-	-9.9	179
180	-	-	-	-	-	-	-	-	-	-9.9	180
181	-	-	-	-	-	-	-	-	-	-9.9	181
182	-	-	-	-	-	-	-	-	-	-10.0	182
183	-	-	-	-	-	-	-	-	-	-10.0	183
184	-	-	-	-	-	-	-	-	-	-10.0	184
185	-	-	-	-	-	-	-	-	-	-	185
186	-	-	-	-	-	-	-	-	-	-	186
187	-	-	-	-	-	-	-	-	-	-	187
188	-	-	-	-	-	-	-	-	-	-	188
189	-	-	-	-	-	-	-	-	-	-	189
190	-	-	-	-	-	-	-	-	-	-	190
191	-	-	-	-	-	-	-	-	-	-	191
192	-	-	-	-	-	-	-	-	-	-	192
193	-	-	-	-	-	-	-	-	-	-	193
194	-	-	-	-	-	-	-	-	-	-	194
195	-	-	-	-	-	-	-	-	-	-	195
196	-	-	-	-	-	-	-	-	-	-	196
197	-	-	-	-	-	-	-	-	-	-	197
198	-	-	-	-	-	-	-	-	-	-	198
199	-	-	-	-	-	-	-	-	-	-	199
200	-	-	-	-	-	-	-	-	-	-	200

API GRAVITY = -10.0 TO -5.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	
0	-2.7	-2.2	-1.7	-1.2	-0.6	-0.1	0.4	0.9	1.5	2.0	0
1	-2.7	-2.2	-1.7	-1.2	-0.7	-0.2	0.4	0.9	1.4	1.9	1
2	-2.8	-2.3	-1.8	-1.2	-0.7	-0.2	0.3	0.9	1.4	1.9	2
3	-2.8	-2.3	-1.8	-1.3	-0.8	-0.2	0.3	0.8	1.3	1.8	3
4	-2.9	-2.3	-1.8	-1.3	-0.8	-0.3	0.3	0.8	1.3	1.8	4
5	-2.9	-2.4	-1.9	-1.4	-0.8	-0.3	0.2	0.7	1.2	1.8	5
6	-2.9	-2.4	-1.9	-1.4	-0.9	-0.4	0.2	0.7	1.2	1.7	6
7	-3.0	-2.5	-1.9	-1.4	-0.9	-0.4	0.1	0.6	1.2	1.7	7
8	-3.0	-2.5	-2.0	-1.5	-1.0	-0.4	0.1	0.6	1.1	1.6	8
9	-3.1	-2.5	-2.0	-1.5	-1.0	-0.5	0.1	0.6	1.1	1.6	9
10	-3.1	-2.6	-2.1	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.6	10
11	-3.1	-2.6	-2.1	-1.6	-1.1	-0.6	0.0	0.5	1.0	1.5	11
12	-3.2	-2.7	-2.1	-1.6	-1.1	-0.6	-0.1	0.4	1.0	1.5	12
13	-3.2	-2.7	-2.2	-1.7	-1.2	-0.6	-0.1	0.4	0.9	1.4	13
14	-3.3	-2.7	-2.2	-1.7	-1.2	-0.7	-0.2	0.4	0.9	1.4	14
15	-3.3	-2.8	-2.3	-1.7	-1.2	-0.7	-0.2	0.3	0.8	1.3	15
16	-3.3	-2.8	-2.3	-1.8	-1.3	-0.8	-0.2	0.3	0.8	1.3	16
17	-3.4	-2.9	-2.3	-1.8	-1.3	-0.8	-0.3	0.2	0.8	1.3	17
18	-3.4	-2.9	-2.4	-1.9	-1.4	-0.8	-0.3	0.2	0.7	1.2	18
19	-3.4	-2.9	-2.4	-1.9	-1.4	-0.9	-0.4	0.2	0.7	1.2	19
20	-3.5	-3.0	-2.5	-1.9	-1.4	-0.9	-0.4	0.1	0.6	1.1	20
21	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.4	0.1	0.6	1.1	21
22	-3.6	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.1	22
23	-3.6	-3.1	-2.6	-2.1	-1.6	-1.0	-0.5	0.0	0.5	1.0	23
24	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	-0.6	-0.1	0.5	1.0	24
25	-3.7	-3.2	-2.7	-2.1	-1.6	-1.1	-0.6	-0.1	0.4	0.9	25
26	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	-0.6	-0.1	0.4	0.9	26
27	-3.8	-3.2	-2.7	-2.2	-1.7	-1.2	-0.7	-0.2	0.3	0.9	27
28	-3.8	-3.3	-2.8	-2.3	-1.7	-1.2	-0.7	-0.2	0.3	0.8	28
29	-3.8	-3.3	-2.8	-2.3	-1.8	-1.3	-0.8	-0.3	0.3	0.8	29
30	-3.9	-3.4	-2.8	-2.3	-1.8	-1.3	-0.8	-0.3	0.2	0.7	30
31	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.8	-0.3	0.2	0.7	31
32	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.9	-0.4	0.1	0.6	32
33	-4.0	-3.5	-3.0	-2.5	-1.9	-1.4	-0.9	-0.4	0.1	0.6	33
34	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.1	0.6	34
35	-4.1	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	35
36	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	-0.5	0.0	0.5	36
37	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	-0.6	-0.1	0.4	37
38	-4.2	-3.7	-3.2	-2.7	-2.1	-1.6	-1.1	-0.6	-0.1	0.4	38
39	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	-0.7	-0.2	0.4	39
40	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	-0.7	-0.2	0.3	40
41	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	-1.3	-0.7	-0.2	0.3	41
42	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	-1.3	-0.8	-0.3	0.2	42
43	-4.4	-3.9	-3.4	-2.8	-2.3	-1.8	-1.3	-0.8	-0.3	0.2	43
44	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.9	-0.4	0.2	44
45	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.9	-0.4	0.1	45
46	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-0.9	-0.4	0.1	46
47	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	47
48	-4.6	-4.1	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	48
49	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	-0.6	-0.1	49
50	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	-0.6	-0.1	50

API GRAVITY = -5.0 TO -0.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	
50	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	-0.6	-0.1	50
51	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.1	-0.6	-0.1	51
52	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	-0.7	-0.2	52
53	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	-0.7	-0.2	53
54	-4.8	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	-1.3	-0.8	-0.3	54
55	-4.8	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	-1.3	-0.8	-0.3	55
56	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.8	-0.3	56
57	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.9	-0.4	57
58	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.9	-0.4	58
59	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	59
60	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	60
61	-5.0	-4.5	-4.0	-3.5	-3.0	-2.6	-2.0	-1.6	-1.1	-0.6	61
62	-5.1	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	-0.6	62
63	-5.1	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	-0.6	63
64	-5.2	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	-0.7	64
65	-5.2	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	-0.7	65
66	-5.2	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.8	-1.3	-0.8	66
67	-5.3	-4.8	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	-1.3	-0.8	67
68	-5.3	-4.8	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	-1.3	-0.8	68
69	-5.3	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.9	69
70	-5.4	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	-0.9	70
71	-5.4	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-2.0	-1.5	-1.0	71
72	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	72
73	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	73
74	-5.5	-5.0	-4.5	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	74
75	-5.6	-5.1	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	-1.1	75
76	-5.6	-5.1	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.7	-1.2	76
77	-5.7	-5.2	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	77
78	-5.7	-5.2	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	-1.2	78
79	-5.7	-5.2	-4.7	-4.2	-3.7	-3.3	-2.8	-2.3	-1.8	-1.3	79
80	-5.8	-5.3	-4.8	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	-1.3	80
81	-5.8	-5.3	-4.8	-4.3	-3.8	-3.3	-2.8	-2.3	-1.9	-1.4	81
82	-5.8	-5.3	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	82
83	-5.9	-5.4	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	-1.4	83
84	-5.9	-5.4	-4.9	-4.4	-3.9	-3.5	-3.0	-2.5	-2.0	-1.5	84
85	-6.0	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	85
86	-6.0	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.1	-1.6	86
87	-6.0	-5.5	-5.0	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	87
88	-6.1	-5.6	-5.1	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	-1.6	88
89	-6.1	-5.6	-5.1	-4.6	-4.1	-3.6	-3.2	-2.7	-2.2	-1.7	89
90	-6.1	-5.6	-5.2	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	-1.7	90
91	-6.2	-5.7	-5.2	-4.7	-4.2	-3.7	-3.2	-2.7	-2.3	-1.8	91
92	-6.2	-5.7	-5.2	-4.7	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	92
93	-6.3	-5.8	-5.3	-4.8	-4.3	-3.8	-3.3	-2.8	-2.3	-1.8	93
94	-6.3	-5.8	-5.3	-4.8	-4.3	-3.8	-3.4	-2.9	-2.4	-1.9	94
95	-6.3	-5.8	-5.3	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	-1.9	95
96	-6.4	-5.9	-5.4	-4.9	-4.4	-3.9	-3.4	-2.9	-2.5	-2.0	96
97	-6.4	-5.9	-5.4	-4.9	-4.4	-4.0	-3.5	-3.0	-2.5	-2.0	97
98	-6.4	-5.9	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	98
99	-6.5	-6.0	-5.5	-5.0	-4.5	-4.0	-3.5	-3.1	-2.6	-2.1	99
100	-6.5	-6.0	-5.5	-5.0	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	100

API GRAVITY = -5.0 TO -0.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	
100	-6.5	-6.0	-5.5	-5.0	-4.6	-4.1	-3.6	-3.1	-2.6	-2.1	100
101	-6.5	-6.1	-5.6	-5.1	-4.6	-4.1	-3.6	-3.1	-2.6	-2.2	101
102	-6.6	-6.1	-5.6	-5.1	-4.6	-4.1	-3.7	-3.2	-2.7	-2.2	102
103	-6.6	-6.1	-5.6	-5.2	-4.7	-4.2	-3.7	-3.2	-2.7	-2.2	103
104	-6.7	-6.2	-5.7	-5.2	-4.7	-4.2	-3.7	-3.3	-2.8	-2.3	104
105	-6.7	-6.2	-5.7	-5.2	-4.8	-4.3	-3.8	-3.3	-2.8	-2.3	105
106	-6.7	-6.2	-5.8	-5.3	-4.8	-4.3	-3.8	-3.3	-2.8	-2.4	106
107	-6.8	-6.3	-5.8	-5.3	-4.8	-4.3	-3.9	-3.4	-2.9	-2.4	107
108	-6.8	-6.3	-5.8	-5.4	-4.9	-4.4	-3.9	-3.4	-2.9	-2.4	108
109	-6.8	-6.4	-5.9	-5.4	-4.9	-4.4	-3.9	-3.5	-3.0	-2.5	109
110	-6.9	-6.4	-5.9	-5.4	-4.9	-4.5	-4.0	-3.5	-3.0	-2.5	110
111	-6.9	-6.4	-6.0	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.6	111
112	-7.0	-6.5	-6.0	-5.5	-5.0	-4.5	-4.1	-3.6	-3.1	-2.6	112
113	-7.0	-6.5	-6.0	-5.5	-5.1	-4.6	-4.1	-3.6	-3.1	-2.6	113
114	-7.0	-6.5	-6.1	-5.6	-5.1	-4.6	-4.1	-3.6	-3.2	-2.7	114
115	-7.1	-6.6	-6.1	-5.6	-5.1	-4.7	-4.2	-3.7	-3.2	-2.7	115
116	-7.1	-6.6	-6.1	-5.7	-5.2	-4.7	-4.2	-3.7	-3.2	-2.8	116
117	-7.1	-6.7	-6.2	-5.7	-5.2	-4.7	-4.2	-3.8	-3.3	-2.8	117
118	-7.2	-6.7	-6.2	-5.7	-5.2	-4.8	-4.3	-3.8	-3.3	-2.8	118
119	-7.2	-6.7	-6.3	-5.8	-5.3	-4.8	-4.3	-3.8	-3.4	-2.9	119
120	-7.3	-6.8	-6.3	-5.8	-5.3	-4.8	-4.4	-3.9	-3.4	-2.9	120
121	-7.3	-6.8	-6.3	-5.8	-5.4	-4.9	-4.4	-3.9	-3.4	-3.0	121
122	-7.3	-6.8	-6.4	-5.9	-5.4	-4.9	-4.4	-4.0	-3.5	-3.0	122
123	-7.4	-6.9	-6.4	-5.9	-5.4	-5.0	-4.5	-4.0	-3.5	-3.0	123
124	-7.4	-6.9	-6.4	-6.0	-5.5	-5.0	-4.5	-4.0	-3.6	-3.1	124
125	-7.4	-7.0	-6.5	-6.0	-5.5	-5.0	-4.6	-4.1	-3.6	-3.1	125
126	-7.5	-7.0	-6.5	-6.0	-5.6	-5.1	-4.6	-4.1	-3.6	-3.2	126
127	-7.5	-7.0	-6.5	-6.1	-5.6	-5.1	-4.6	-4.2	-3.7	-3.2	127
128	-7.5	-7.1	-6.6	-6.1	-5.6	-5.1	-4.7	-4.2	-3.7	-3.2	128
129	-7.6	-7.1	-6.6	-6.1	-5.7	-5.2	-4.7	-4.2	-3.7	-3.3	129
130	-7.6	-7.1	-6.7	-6.2	-5.7	-5.2	-4.7	-4.3	-3.8	-3.3	130
131	-7.7	-7.2	-6.7	-6.2	-5.7	-5.3	-4.8	-4.3	-3.8	-3.4	131
132	-7.7	-7.2	-6.7	-6.3	-5.8	-5.3	-4.8	-4.3	-3.9	-3.4	132
133	-7.7	-7.2	-6.8	-6.3	-5.8	-5.3	-4.9	-4.4	-3.9	-3.4	133
134	-7.8	-7.3	-6.8	-6.3	-5.9	-5.4	-4.9	-4.4	-3.9	-3.5	134
135	-7.8	-7.3	-6.8	-6.4	-5.9	-5.4	-4.9	-4.5	-4.0	-3.5	135
136	-7.8	-7.4	-6.9	-6.4	-5.9	-5.5	-5.0	-4.5	-4.0	-3.5	136
137	-7.9	-7.4	-6.9	-6.4	-6.0	-5.5	-5.0	-4.5	-4.1	-3.6	137
138	-7.9	-7.4	-7.0	-6.5	-6.0	-5.5	-5.1	-4.6	-4.1	-3.6	138
139	-7.9	-7.5	-7.0	-6.5	-6.0	-5.6	-5.1	-4.6	-4.1	-3.7	139
140	-8.0	-7.5	-7.0	-6.6	-6.1	-5.6	-5.1	-4.7	-4.2	-3.7	140
141	-8.0	-7.5	-7.1	-6.6	-6.1	-5.6	-5.2	-4.7	-4.2	-3.7	141
142	-8.1	-7.6	-7.1	-6.6	-6.2	-5.7	-5.2	-4.7	-4.3	-3.8	142
143	-8.1	-7.6	-7.1	-6.7	-6.2	-5.7	-5.2	-4.8	-4.3	-3.8	143
144	-8.1	-7.7	-7.2	-6.7	-6.2	-5.8	-5.3	-4.8	-4.3	-3.9	144
145	-8.2	-7.7	-7.2	-6.7	-6.3	-5.8	-5.3	-4.8	-4.4	-3.9	145
146	-8.2	-7.7	-7.3	-6.8	-6.3	-5.8	-5.4	-4.9	-4.4	-3.9	146
147	-8.2	-7.8	-7.3	-6.8	-6.3	-5.9	-5.4	-4.9	-4.4	-4.0	147
148	-8.3	-7.8	-7.3	-6.9	-6.4	-5.9	-5.4	-5.0	-4.5	-4.0	148
149	-8.3	-7.8	-7.4	-6.9	-6.4	-5.9	-5.5	-5.0	-4.5	-4.1	149
150	-8.3	-7.9	-7.4	-6.9	-6.5	-6.0	-5.5	-5.0	-4.6	-4.1	150

API GRAVITY = -5.0 TO -0.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	
150	-8.3	-7.9	-7.4	-6.9	-6.5	-6.0	-5.5	-5.0	-4.6	-4.1	150
151	-8.4	-7.9	-7.4	-7.0	-6.5	-6.0	-5.5	-5.1	-4.6	-4.1	151
152	-8.4	-7.9	-7.5	-7.0	-6.5	-6.1	-5.6	-5.1	-4.6	-4.2	152
153	-8.5	-8.0	-7.5	-7.0	-6.6	-6.1	-5.6	-5.2	-4.7	-4.2	153
154	-8.5	-8.0	-7.6	-7.1	-6.6	-6.1	-5.7	-5.2	-4.7	-4.2	154
155	-8.5	-8.1	-7.6	-7.1	-6.6	-6.2	-5.7	-5.2	-4.8	-4.3	155
156	-8.6	-8.1	-7.6	-7.2	-6.7	-6.2	-5.7	-5.3	-4.8	-4.3	156
157	-8.6	-8.1	-7.7	-7.2	-6.7	-6.2	-5.8	-5.3	-4.8	-4.4	157
158	-8.6	-8.2	-7.7	-7.2	-6.8	-6.3	-5.8	-5.3	-4.9	-4.4	158
159	-8.7	-8.2	-7.7	-7.3	-6.8	-6.3	-5.9	-5.4	-4.9	-4.4	159
160	-8.7	-8.2	-7.8	-7.3	-6.8	-6.4	-5.9	-5.4	-5.0	-4.5	160
161	-8.7	-8.3	-7.8	-7.3	-6.9	-6.4	-5.9	-5.5	-5.0	-4.5	161
162	-8.8	-8.3	-7.8	-7.4	-6.9	-6.4	-6.0	-5.5	-5.0	-4.6	162
163	-8.8	-8.3	-7.9	-7.4	-6.9	-6.5	-6.0	-5.5	-5.1	-4.6	163
164	-8.9	-8.4	-7.9	-7.4	-7.0	-6.5	-6.0	-5.6	-5.1	-4.6	164
165	-8.9	-8.4	-8.0	-7.5	-7.0	-6.5	-6.1	-5.6	-5.1	-4.7	165
166	-8.9	-8.5	-8.0	-7.5	-7.1	-6.6	-6.1	-5.6	-5.2	-4.7	166
167	-9.0	-8.5	-8.0	-7.6	-7.1	-6.6	-6.2	-5.7	-5.2	-4.8	167
168	-9.0	-8.5	-8.1	-7.6	-7.1	-6.7	-6.2	-5.7	-5.3	-4.8	168
169	-9.0	-8.6	-8.1	-7.6	-7.2	-6.7	-6.2	-5.8	-5.3	-4.8	169
170	-9.1	-8.6	-8.1	-7.7	-7.2	-6.7	-6.3	-5.8	-5.3	-4.9	170
171	-9.1	-8.6	-8.2	-7.7	-7.2	-6.8	-6.3	-5.8	-5.4	-4.9	171
172	-9.1	-8.7	-8.2	-7.7	-7.3	-6.8	-6.3	-5.9	-5.4	-4.9	172
173	-9.2	-8.7	-8.2	-7.8	-7.3	-6.8	-6.4	-5.9	-5.4	-5.0	173
174	-9.2	-8.7	-8.3	-7.8	-7.3	-6.9	-6.4	-6.0	-5.5	-5.0	174
175	-9.3	-8.8	-8.3	-7.9	-7.4	-6.9	-6.5	-6.0	-5.5	-5.1	175
176	-9.3	-8.8	-8.4	-7.9	-7.4	-7.0	-6.5	-6.0	-5.6	-5.1	176
177	-9.3	-8.9	-8.4	-7.9	-7.5	-7.0	-6.5	-6.1	-5.6	-5.1	177
178	-9.4	-8.9	-8.4	-8.0	-7.5	-7.0	-6.6	-6.1	-5.6	-5.2	178
179	-9.4	-8.9	-8.5	-8.0	-7.5	-7.1	-6.6	-6.1	-5.7	-5.2	179
180	-9.4	-9.0	-8.5	-8.0	-7.6	-7.1	-6.6	-6.2	-5.7	-5.3	180
181	-9.5	-9.0	-8.5	-8.1	-7.6	-7.1	-6.7	-6.2	-5.8	-5.3	181
182	-9.5	-9.0	-8.6	-8.1	-7.6	-7.2	-6.7	-6.3	-5.8	-5.3	182
183	-9.5	-9.1	-8.6	-8.1	-7.7	-7.2	-6.8	-6.3	-5.8	-5.4	183
184	-9.6	-9.1	-8.6	-8.2	-7.7	-7.3	-6.8	-6.3	-5.9	-5.4	184
185	-9.6	-9.1	-8.7	-8.2	-7.8	-7.3	-6.8	-6.4	-5.9	-5.4	185
186	-9.6	-9.2	-8.7	-8.3	-7.8	-7.3	-6.9	-6.4	-5.9	-5.5	186
187	-9.7	-9.2	-8.8	-8.3	-7.8	-7.4	-6.9	-6.4	-6.0	-5.5	187
188	-9.7	-9.3	-8.8	-8.3	-7.9	-7.4	-6.9	-6.5	-6.0	-5.6	188
189	-9.8	-9.3	-8.8	-8.4	-7.9	-7.4	-7.0	-6.5	-6.1	-5.6	189
190	-9.8	-9.3	-8.9	-8.4	-7.9	-7.5	-7.0	-6.6	-6.1	-5.6	190
191	-9.8	-9.4	-8.9	-8.4	-8.0	-7.5	-7.1	-6.6	-6.1	-5.7	191
192	-9.9	-9.4	-8.9	-8.5	-8.0	-7.6	-7.1	-6.6	-6.2	-5.7	192
193	-9.9	-9.4	-9.0	-8.5	-8.1	-7.6	-7.1	-6.7	-6.2	-5.8	193
194	-9.9	-9.5	-9.0	-8.5	-8.1	-7.6	-7.2	-6.7	-6.2	-5.8	194
195	-10.0	-9.5	-9.0	-8.6	-8.1	-7.7	-7.2	-6.7	-6.3	-5.8	195
196	-10.0	-9.5	-9.1	-8.6	-8.2	-7.7	-7.2	-6.8	-6.3	-5.9	196
197	-10.0	-9.6	-9.1	-8.7	-8.2	-7.7	-7.3	-6.8	-6.4	-5.9	197
198	-	-9.6	-9.2	-8.7	-8.2	-7.8	-7.3	-6.9	-6.4	-5.9	198
199	-	-9.6	-9.2	-8.7	-8.3	-7.8	-7.4	-6.9	-6.4	-6.0	199
200	-	-9.7	-9.2	-8.8	-8.3	-7.8	-7.4	-6.9	-6.5	-6.0	200

API GRAVITY = -5.0 TO -0.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	
200	-	-9.7	-9.2	-8.8	-8.3	-7.8	-7.4	-6.9	-6.5	-6.0	200
201	-	-9.7	-9.3	-8.8	-8.3	-7.9	-7.4	-7.0	-6.5	-6.1	201
202	-	-9.8	-9.3	-8.8	-8.4	-7.9	-7.5	-7.0	-6.5	-6.1	202
203	-	-9.8	-9.3	-8.9	-8.4	-8.0	-7.5	-7.0	-6.6	-6.1	203
204	-	-9.8	-9.4	-8.9	-8.5	-8.0	-7.5	-7.1	-6.6	-6.2	204
205	-	-9.9	-9.4	-8.9	-8.5	-8.0	-7.6	-7.1	-6.7	-6.2	205
206	-	-9.9	-9.4	-9.0	-8.5	-8.1	-7.6	-7.2	-6.7	-6.2	206
207	-	-9.9	-9.5	-9.0	-8.6	-8.1	-7.6	-7.2	-6.7	-6.3	207
208	-	-10.0	-9.5	-9.1	-8.6	-8.1	-7.7	-7.2	-6.8	-6.3	208
209	-	-10.0	-9.5	-9.1	-8.6	-8.2	-7.7	-7.3	-6.8	-6.4	209
210	-	-10.0	-9.6	-9.1	-8.7	-8.2	-7.8	-7.3	-6.9	-6.4	210
211	-	-	-9.6	-9.2	-8.7	-8.3	-7.8	-7.3	-6.9	-6.4	211
212	-	-	-9.7	-9.2	-8.7	-8.3	-7.8	-7.4	-6.9	-6.5	212
213	-	-	-9.7	-9.2	-8.8	-8.3	-7.9	-7.4	-7.0	-6.5	213
214	-	-	-9.7	-9.3	-8.8	-8.4	-7.9	-7.5	-7.0	-6.5	214
215	-	-	-9.8	-9.3	-8.9	-8.4	-7.9	-7.5	-7.0	-6.6	215
216	-	-	-9.8	-9.3	-8.9	-8.4	-8.0	-7.5	-7.1	-6.6	216
217	-	-	-9.8	-9.4	-8.9	-8.5	-8.0	-7.6	-7.1	-6.7	217
218	-	-	-9.9	-9.4	-9.0	-8.5	-8.1	-7.6	-7.1	-6.7	218
219	-	-	-9.9	-9.5	-9.0	-8.5	-8.1	-7.6	-7.2	-6.7	219
220	-	-	-9.9	-9.5	-9.0	-8.6	-8.1	-7.7	-7.2	-6.8	220
221	-	-	-10.0	-9.5	-9.1	-8.6	-8.2	-7.7	-7.3	-6.8	221
222	-	-	-10.0	-9.6	-9.1	-8.7	-8.2	-7.8	-7.3	-6.8	222
223	-	-	-10.0	-9.6	-9.1	-8.7	-8.2	-7.8	-7.3	-6.9	223
224	-	-	-	-9.6	-9.2	-8.7	-8.3	-7.8	-7.4	-6.9	224
225	-	-	-	-9.7	-9.2	-8.8	-8.3	-7.9	-7.4	-7.0	225
226	-	-	-	-9.7	-9.2	-8.8	-8.3	-7.9	-7.4	-7.0	226
227	-	-	-	-9.7	-9.3	-8.8	-8.4	-7.9	-7.5	-7.0	227
228	-	-	-	-9.8	-9.3	-8.9	-8.4	-8.0	-7.5	-7.1	228
229	-	-	-	-9.8	-9.4	-8.9	-8.5	-8.0	-7.6	-7.1	229
230	-	-	-	-9.8	-9.4	-8.9	-8.5	-8.0	-7.6	-7.1	230
231	-	-	-	-9.9	-9.4	-9.0	-8.5	-8.1	-7.6	-7.2	231
232	-	-	-	-9.9	-9.5	-9.0	-8.6	-8.1	-7.7	-7.2	232
233	-	-	-	-10.0	-9.5	-9.1	-8.6	-8.2	-7.7	-7.3	233
234	-	-	-	-10.0	-9.5	-9.1	-8.6	-8.2	-7.7	-7.3	234
235	-	-	-	-10.0	-9.6	-9.1	-8.7	-8.2	-7.8	-7.3	235
236	-	-	-	-10.1	-9.6	-9.2	-8.7	-8.3	-7.8	-7.4	236
237	-	-	-	-	-9.6	-9.2	-8.8	-8.3	-7.9	-7.4	237
238	-	-	-	-	-9.7	-9.2	-8.8	-8.3	-7.9	-7.4	238
239	-	-	-	-	-9.7	-9.3	-8.8	-8.4	-7.9	-7.5	239
240	-	-	-	-	-9.8	-9.3	-8.9	-8.4	-8.0	-7.5	240
241	-	-	-	-	-9.8	-9.3	-8.9	-8.4	-8.0	-7.6	241
242	-	-	-	-	-9.8	-9.4	-8.9	-8.5	-8.0	-7.6	242
243	-	-	-	-	-9.9	-9.4	-9.0	-8.5	-8.1	-7.6	243
244	-	-	-	-	-9.9	-9.5	-9.0	-8.6	-8.1	-7.7	244
245	-	-	-	-	-9.9	-9.5	-9.0	-8.6	-8.2	-7.7	245
246	-	-	-	-	-10.0	-9.5	-9.1	-8.6	-8.2	-7.7	246
247	-	-	-	-	-10.0	-9.6	-9.1	-8.7	-8.2	-7.8	247
248	-	-	-	-	-10.0	-9.6	-9.1	-8.7	-8.3	-7.8	248
249	-	-	-	-	-	-9.6	-9.2	-8.7	-8.3	-7.9	249
250	-	-	-	-	-	-9.7	-9.2	-8.8	-8.3	-7.9	250

API GRAVITY = -5.0 TO -0.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	
250	-	-	-	-	-	-9.7	-9.2	-8.8	-8.3	-7.9	250
251	-	-	-	-	-	-9.7	-9.3	-8.8	-8.4	-7.9	251
252	-	-	-	-	-	-9.7	-9.3	-8.8	-8.4	-8.0	252
253	-	-	-	-	-	-9.8	-9.3	-8.9	-8.4	-8.0	253
254	-	-	-	-	-	-9.8	-9.4	-8.9	-8.5	-8.0	254
255	-	-	-	-	-	-9.8	-9.4	-9.0	-8.5	-8.1	255
256	-	-	-	-	-	-9.9	-9.4	-9.0	-8.6	-8.1	256
257	-	-	-	-	-	-9.9	-9.5	-9.0	-8.6	-8.1	257
258	-	-	-	-	-	-10.0	-9.5	-9.1	-8.6	-8.2	258
259	-	-	-	-	-	-10.0	-9.5	-9.1	-8.7	-8.2	259
260	-	-	-	-	-	-10.0	-9.6	-9.1	-8.7	-8.3	260
261	-	-	-	-	-	-10.1	-9.6	-9.2	-8.7	-8.3	261
262	-	-	-	-	-	-	-9.7	-9.2	-8.8	-8.3	262
263	-	-	-	-	-	-	-9.7	-9.3	-8.8	-8.4	263
264	-	-	-	-	-	-	-9.7	-9.3	-8.8	-8.4	264
265	-	-	-	-	-	-	-9.8	-9.3	-8.9	-8.4	265
266	-	-	-	-	-	-	-9.8	-9.4	-8.9	-8.5	266
267	-	-	-	-	-	-	-9.8	-9.4	-9.0	-8.5	267
268	-	-	-	-	-	-	-9.9	-9.4	-9.0	-8.6	268
269	-	-	-	-	-	-	-9.9	-9.5	-9.0	-8.6	269
270	-	-	-	-	-	-	-9.9	-9.5	-9.1	-8.6	270
271	-	-	-	-	-	-	-10.0	-9.5	-9.1	-8.7	271
272	-	-	-	-	-	-	-10.0	-9.6	-9.1	-8.7	272
273	-	-	-	-	-	-	-10.0	-9.6	-9.2	-8.7	273
274	-	-	-	-	-	-	-	-9.6	-9.2	-8.8	274
275	-	-	-	-	-	-	-	-9.7	-9.2	-8.8	275
276	-	-	-	-	-	-	-	-9.7	-9.3	-8.8	276
277	-	-	-	-	-	-	-	-9.8	-9.3	-8.9	277
278	-	-	-	-	-	-	-	-9.8	-9.4	-8.9	278
279	-	-	-	-	-	-	-	-9.8	-9.4	-9.0	279
280	-	-	-	-	-	-	-	-9.9	-9.4	-9.0	280
281	-	-	-	-	-	-	-	-9.9	-9.5	-9.0	281
282	-	-	-	-	-	-	-	-9.9	-9.5	-9.1	282
283	-	-	-	-	-	-	-	-10.0	-9.5	-9.1	283
284	-	-	-	-	-	-	-	-10.0	-9.6	-9.1	284
285	-	-	-	-	-	-	-	-10.0	-9.6	-9.2	285
286	-	-	-	-	-	-	-	-	-9.6	-9.2	286
287	-	-	-	-	-	-	-	-	-9.7	-9.2	287
288	-	-	-	-	-	-	-	-	-9.7	-9.3	288
289	-	-	-	-	-	-	-	-	-9.8	-9.3	289
290	-	-	-	-	-	-	-	-	-9.8	-9.4	290
291	-	-	-	-	-	-	-	-	-9.8	-9.4	291
292	-	-	-	-	-	-	-	-	-9.9	-9.4	292
293	-	-	-	-	-	-	-	-	-9.9	-9.5	293
294	-	-	-	-	-	-	-	-	-9.9	-9.5	294
295	-	-	-	-	-	-	-	-	-10.0	-9.5	295
296	-	-	-	-	-	-	-	-	-10.0	-9.6	296
297	-	-	-	-	-	-	-	-	-10.0	-9.6	297
298	-	-	-	-	-	-	-	-	-	-9.6	298
299	-	-	-	-	-	-	-	-	-	-9.7	299
300	-	-	-	-	-	-	-	-	-	-9.7	300

API GRAVITY = -5.0 TO -0.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
0	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.7	7.2	0
1	2.5	3.0	3.5	4.0	4.5	5.0	5.6	6.1	6.6	7.1	1
2	2.4	2.9	3.4	4.0	4.5	5.0	5.5	6.0	6.6	7.1	2
3	2.4	2.9	3.4	3.9	4.4	5.0	5.5	6.0	6.5	7.0	3
4	2.3	2.8	3.4	3.9	4.4	4.9	5.4	6.0	6.5	7.0	4
5	2.3	2.8	3.3	3.8	4.4	4.9	5.4	5.9	6.4	6.9	5
6	2.2	2.8	3.3	3.8	4.3	4.8	5.3	5.9	6.4	6.9	6
7	2.2	2.7	3.2	3.7	4.3	4.8	5.3	5.8	6.3	6.9	7
8	2.2	2.7	3.2	3.7	4.2	4.7	5.3	5.8	6.3	6.8	8
9	2.1	2.6	3.1	3.7	4.2	4.7	5.2	5.7	6.2	6.8	9
10	2.1	2.6	3.1	3.6	4.1	4.7	5.2	5.7	6.2	6.7	10
11	2.0	2.5	3.1	3.6	4.1	4.6	5.1	5.6	6.2	6.7	11
12	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.6	12
13	1.9	2.5	3.0	3.5	4.0	4.5	5.0	5.6	6.1	6.6	13
14	1.9	2.4	2.9	3.5	4.0	4.5	5.0	5.5	6.0	6.5	14
15	1.9	2.4	2.9	3.4	3.9	4.4	5.0	5.5	6.0	6.5	15
16	1.8	2.3	2.8	3.4	3.9	4.4	4.9	5.4	5.9	6.5	16
17	1.8	2.3	2.8	3.3	3.8	4.3	4.9	5.4	5.9	6.4	17
18	1.7	2.3	2.8	3.3	3.8	4.3	4.8	5.3	5.8	6.4	18
19	1.7	2.2	2.7	3.2	3.7	4.3	4.8	5.3	5.8	6.3	19
20	1.7	2.2	2.7	3.2	3.7	4.2	4.7	5.2	5.8	6.3	20
21	1.6	2.1	2.6	3.2	3.7	4.2	4.7	5.2	5.7	6.2	21
22	1.6	2.1	2.6	3.1	3.6	4.1	4.6	5.2	5.7	6.2	22
23	1.5	2.0	2.6	3.1	3.6	4.1	4.6	5.1	5.6	6.1	23
24	1.5	2.0	2.5	3.0	3.5	4.0	4.6	5.1	5.6	6.1	24
25	1.4	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	25
26	1.4	1.9	2.4	2.9	3.4	4.0	4.5	5.0	5.5	6.0	26
27	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.4	6.0	27
28	1.3	1.8	2.3	2.9	3.4	3.9	4.4	4.9	5.4	5.9	28
29	1.3	1.8	2.3	2.8	3.3	3.8	4.3	4.9	5.4	5.9	29
30	1.2	1.7	2.3	2.8	3.3	3.8	4.3	4.8	5.3	5.8	30
31	1.2	1.7	2.2	2.7	3.2	3.7	4.3	4.8	5.3	5.8	31
32	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7	5.2	5.7	32
33	1.1	1.6	2.1	2.6	3.1	3.7	4.2	4.7	5.2	5.7	33
34	1.1	1.6	2.1	2.6	3.1	3.6	4.1	4.6	5.1	5.6	34
35	1.0	1.5	2.0	2.6	3.1	3.6	4.1	4.6	5.1	5.6	35
36	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	36
37	0.9	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	37
38	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.5	5.0	5.5	38
39	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.4	39
40	0.8	1.3	1.8	2.3	2.8	3.4	3.9	4.4	4.9	5.4	40
41	0.8	1.3	1.8	2.3	2.8	3.3	3.8	4.3	4.8	5.3	41
42	0.7	1.2	1.8	2.3	2.8	3.3	3.8	4.3	4.8	5.3	42
43	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7	5.3	43
44	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7	5.2	44
45	0.6	1.1	1.6	2.1	2.6	3.1	3.6	4.2	4.7	5.2	45
46	0.6	1.1	1.6	2.1	2.6	3.1	3.6	4.1	4.6	5.1	46
47	0.5	1.0	1.5	2.0	2.6	3.1	3.6	4.1	4.6	5.1	47
48	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	48
49	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	49
50	0.4	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	50

API GRAVITY = 0.0 TO 4.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
50	0.4	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	50
51	0.4	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	51
52	0.3	0.8	1.3	1.8	2.3	2.8	3.3	3.8	4.3	4.9	52
53	0.3	0.8	1.3	1.8	2.3	2.8	3.3	3.8	4.3	4.8	53
54	0.2	0.7	1.3	1.8	2.3	2.8	3.3	3.8	4.3	4.8	54
55	0.2	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7	55
56	0.2	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7	56
57	0.1	0.6	1.1	1.6	2.1	2.6	3.1	3.6	4.1	4.6	57
58	0.1	0.6	1.1	1.6	2.1	2.6	3.1	3.6	4.1	4.6	58
59	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	59
60	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	60
61	-0.1	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	61
62	-0.1	0.4	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.4	62
63	-0.1	0.4	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.4	63
64	-0.2	0.3	0.8	1.3	1.8	2.3	2.8	3.3	3.8	4.3	64
65	-0.2	0.3	0.8	1.3	1.8	2.3	2.8	3.3	3.8	4.3	65
66	-0.3	0.3	0.8	1.2	1.7	2.2	2.7	3.2	3.7	4.2	66
67	-0.3	0.2	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	67
68	-0.3	0.2	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	68
69	-0.4	0.1	0.6	1.1	1.6	2.1	2.6	3.1	3.6	4.1	69
70	-0.4	0.1	0.6	1.1	1.6	2.1	2.6	3.1	3.6	4.1	70
71	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	71
72	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	72
73	-0.5	0.0	0.5	1.0	1.5	1.9	2.4	2.9	3.4	3.9	73
74	-0.6	-0.1	0.4	0.9	1.4	1.9	2.4	2.9	3.4	3.9	74
75	-0.6	-0.1	0.4	0.9	1.4	1.9	2.4	2.9	3.3	3.8	75
76	-0.7	-0.2	0.3	0.8	1.3	1.8	2.3	2.8	3.3	3.8	76
77	-0.7	-0.2	0.3	0.8	1.3	1.8	2.3	2.8	3.3	3.8	77
78	-0.7	-0.3	0.3	0.7	1.2	1.7	2.2	2.7	3.2	3.7	78
79	-0.8	-0.3	0.2	0.7	1.2	1.7	2.2	2.7	3.2	3.7	79
80	-0.8	-0.3	0.2	0.7	1.2	1.7	2.1	2.6	3.1	3.6	80
81	-0.9	-0.4	0.1	0.6	1.1	1.6	2.1	2.6	3.1	3.6	81
82	-0.9	-0.4	0.1	0.6	1.1	1.6	2.1	2.6	3.0	3.5	82
83	-0.9	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	83
84	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	84
85	-1.0	-0.5	0.0	0.5	0.9	1.4	1.9	2.4	2.9	3.4	85
86	-1.1	-0.6	-0.1	0.4	0.9	1.4	1.9	2.4	2.9	3.4	86
87	-1.1	-0.6	-0.1	0.4	0.9	1.4	1.8	2.3	2.8	3.3	87
88	-1.1	-0.7	-0.2	0.3	0.8	1.3	1.8	2.3	2.8	3.3	88
89	-1.2	-0.7	-0.2	0.3	0.8	1.3	1.8	2.3	2.7	3.2	89
90	-1.2	-0.7	-0.3	0.3	0.7	1.2	1.7	2.2	2.7	3.2	90
91	-1.3	-0.8	-0.3	0.2	0.7	1.2	1.7	2.2	2.7	3.2	91
92	-1.3	-0.8	-0.3	0.2	0.7	1.1	1.6	2.1	2.6	3.1	92
93	-1.4	-0.9	-0.4	0.1	0.6	1.1	1.6	2.1	2.6	3.1	93
94	-1.4	-0.9	-0.4	0.1	0.6	1.1	1.6	2.0	2.5	3.0	94
95	-1.4	-0.9	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0	95
96	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.4	2.9	96
97	-1.5	-1.0	-0.5	0.0	0.4	0.9	1.4	1.9	2.4	2.9	97
98	-1.6	-1.1	-0.6	-0.1	0.4	0.9	1.4	1.9	2.4	2.8	98
99	-1.6	-1.1	-0.6	-0.1	0.4	0.9	1.3	1.8	2.3	2.8	99
100	-1.6	-1.1	-0.7	-0.2	0.3	0.8	1.3	1.8	2.3	2.8	100

API GRAVITY = 0.0 TO 4.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
100	-1.6	-1.1	-0.7	-0.2	0.3	0.8	1.3	1.8	2.3	2.8	100
101	-1.7	-1.2	-0.7	-0.2	0.3	0.8	1.3	1.7	2.2	2.7	101
102	-1.7	-1.2	-0.7	-0.3	0.2	0.7	1.2	1.7	2.2	2.7	102
103	-1.8	-1.3	-0.8	-0.3	0.2	0.7	1.2	1.7	2.1	2.6	103
104	-1.8	-1.3	-0.8	-0.3	0.2	0.6	1.1	1.6	2.1	2.6	104
105	-1.8	-1.3	-0.9	-0.4	0.1	0.6	1.1	1.6	2.1	2.5	105
106	-1.9	-1.4	-0.9	-0.4	0.1	0.6	1.0	1.5	2.0	2.5	106
107	-1.9	-1.4	-0.9	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	107
108	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.4	1.9	2.4	108
109	-2.0	-1.5	-1.0	-0.5	-0.1	0.4	0.9	1.4	1.9	2.4	109
110	-2.0	-1.6	-1.1	-0.6	-0.1	0.4	0.9	1.4	1.8	2.3	110
111	-2.1	-1.6	-1.1	-0.6	-0.1	0.4	0.8	1.3	1.8	2.3	111
112	-2.1	-1.6	-1.1	-0.7	-0.2	0.3	0.8	1.3	1.8	2.2	112
113	-2.2	-1.7	-1.2	-0.7	-0.2	0.3	0.8	1.2	1.7	2.2	113
114	-2.2	-1.7	-1.2	-0.7	-0.3	0.2	0.7	1.2	1.7	2.2	114
115	-2.2	-1.8	-1.3	-0.8	-0.3	0.2	0.7	1.2	1.6	2.1	115
116	-2.3	-1.8	-1.3	-0.8	-0.3	0.1	0.6	1.1	1.6	2.1	116
117	-2.3	-1.8	-1.4	-0.9	-0.4	0.1	0.6	1.1	1.5	2.0	117
118	-2.4	-1.9	-1.4	-0.9	-0.4	0.1	0.5	1.0	1.5	2.0	118
119	-2.4	-1.9	-1.4	-1.0	-0.5	0.0	0.5	1.0	1.5	1.9	119
120	-2.4	-2.0	-1.5	-1.0	-0.5	0.0	0.5	0.9	1.4	1.9	120
121	-2.5	-2.0	-1.5	-1.0	-0.6	-0.1	0.4	0.9	1.4	1.9	121
122	-2.5	-2.0	-1.6	-1.1	-0.6	-0.1	0.4	0.9	1.3	1.8	122
123	-2.6	-2.1	-1.6	-1.1	-0.6	-0.2	0.3	0.8	1.3	1.8	123
124	-2.6	-2.1	-1.6	-1.2	-0.7	-0.2	0.3	0.8	1.3	1.7	124
125	-2.6	-2.2	-1.7	-1.2	-0.7	-0.2	0.3	0.7	1.2	1.7	125
126	-2.7	-2.2	-1.7	-1.2	-0.8	-0.3	0.2	0.7	1.2	1.6	126
127	-2.7	-2.2	-1.8	-1.3	-0.8	-0.3	0.2	0.6	1.1	1.6	127
128	-2.8	-2.3	-1.8	-1.3	-0.8	-0.4	0.1	0.6	1.1	1.6	128
129	-2.8	-2.3	-1.8	-1.4	-0.9	-0.4	0.1	0.6	1.0	1.5	129
130	-2.8	-2.4	-1.9	-1.4	-0.9	-0.4	0.0	0.5	1.0	1.5	130
131	-2.9	-2.4	-1.9	-1.4	-1.0	-0.5	0.0	0.5	1.0	1.4	131
132	-2.9	-2.4	-2.0	-1.5	-1.0	-0.5	0.0	0.4	0.9	1.4	132
133	-3.0	-2.5	-2.0	-1.5	-1.0	-0.6	-0.1	0.4	0.9	1.4	133
134	-3.0	-2.5	-2.0	-1.6	-1.1	-0.6	-0.1	0.4	0.8	1.3	134
135	-3.0	-2.6	-2.1	-1.6	-1.1	-0.6	-0.2	0.3	0.8	1.3	135
136	-3.1	-2.6	-2.1	-1.6	-1.2	-0.7	-0.2	0.3	0.7	1.2	136
137	-3.1	-2.6	-2.2	-1.7	-1.2	-0.7	-0.3	0.2	0.7	1.2	137
138	-3.1	-2.7	-2.2	-1.7	-1.2	-0.8	-0.3	0.2	0.7	1.1	138
139	-3.2	-2.7	-2.2	-1.8	-1.3	-0.8	-0.3	0.1	0.6	1.1	139
140	-3.2	-2.8	-2.3	-1.8	-1.3	-0.9	-0.4	0.1	0.6	1.1	140
141	-3.3	-2.8	-2.3	-1.8	-1.4	-0.9	-0.4	0.1	0.5	1.0	141
142	-3.3	-2.8	-2.4	-1.9	-1.4	-0.9	-0.5	0.0	0.5	1.0	142
143	-3.3	-2.9	-2.4	-1.9	-1.4	-1.0	-0.5	0.0	0.5	0.9	143
144	-3.4	-2.9	-2.4	-2.0	-1.5	-1.0	-0.5	-0.1	0.4	0.9	144
145	-3.4	-3.0	-2.5	-2.0	-1.5	-1.1	-0.6	-0.1	0.4	0.8	145
146	-3.5	-3.0	-2.5	-2.0	-1.6	-1.1	-0.6	-0.2	0.3	0.8	146
147	-3.5	-3.0	-2.6	-2.1	-1.6	-1.1	-0.7	-0.2	0.3	0.8	147
148	-3.5	-3.1	-2.6	-2.1	-1.7	-1.2	-0.7	-0.2	0.2	0.7	148
149	-3.6	-3.1	-2.6	-2.2	-1.7	-1.2	-0.7	-0.3	0.2	0.7	149
150	-3.6	-3.1	-2.7	-2.2	-1.7	-1.3	-0.8	-0.3	0.2	0.6	150

API GRAVITY = 0.0 TO 4.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
150	-3.6	-3.1	-2.7	-2.2	-1.7	-1.3	-0.8	-0.3	0.2	0.6	150
151	-3.7	-3.2	-2.7	-2.2	-1.8	-1.3	-0.8	-0.4	0.1	0.6	151
152	-3.7	-3.2	-2.8	-2.3	-1.8	-1.3	-0.9	-0.4	0.1	0.6	152
153	-3.7	-3.3	-2.8	-2.3	-1.9	-1.4	-0.9	-0.4	0.0	0.5	153
154	-3.8	-3.3	-2.8	-2.4	-1.9	-1.4	-1.0	-0.5	0.0	0.5	154
155	-3.8	-3.3	-2.9	-2.4	-1.9	-1.5	-1.0	-0.5	-0.1	0.4	155
156	-3.9	-3.4	-2.9	-2.4	-2.0	-1.5	-1.0	-0.6	-0.1	0.4	156
157	-3.9	-3.4	-3.0	-2.5	-2.0	-1.5	-1.1	-0.6	-0.1	0.3	157
158	-3.9	-3.5	-3.0	-2.5	-2.1	-1.6	-1.1	-0.6	-0.2	0.3	158
159	-4.0	-3.5	-3.0	-2.6	-2.1	-1.6	-1.2	-0.7	-0.2	0.3	159
160	-4.0	-3.5	-3.1	-2.6	-2.1	-1.7	-1.2	-0.7	-0.3	0.2	160
161	-4.1	-3.6	-3.1	-2.6	-2.2	-1.7	-1.2	-0.8	-0.3	0.2	161
162	-4.1	-3.6	-3.2	-2.7	-2.2	-1.7	-1.3	-0.8	-0.3	0.1	162
163	-4.1	-3.7	-3.2	-2.7	-2.3	-1.8	-1.3	-0.9	-0.4	0.1	163
164	-4.2	-3.7	-3.2	-2.8	-2.3	-1.8	-1.4	-0.9	-0.4	0.0	164
165	-4.2	-3.7	-3.3	-2.8	-2.3	-1.9	-1.4	-0.9	-0.5	0.0	165
166	-4.2	-3.8	-3.3	-2.8	-2.4	-1.9	-1.4	-1.0	-0.5	0.0	166
167	-4.3	-3.8	-3.4	-2.9	-2.4	-2.0	-1.5	-1.0	-0.6	-0.1	167
168	-4.3	-3.9	-3.4	-2.9	-2.5	-2.0	-1.5	-1.1	-0.6	-0.1	168
169	-4.4	-3.9	-3.4	-3.0	-2.5	-2.0	-1.6	-1.1	-0.6	-0.2	169
170	-4.4	-3.9	-3.5	-3.0	-2.5	-2.1	-1.6	-1.1	-0.7	-0.2	170
171	-4.4	-4.0	-3.5	-3.0	-2.6	-2.1	-1.6	-1.2	-0.7	-0.3	171
172	-4.5	-4.0	-3.5	-3.1	-2.6	-2.2	-1.7	-1.2	-0.8	-0.3	172
173	-4.5	-4.1	-3.6	-3.1	-2.7	-2.2	-1.7	-1.3	-0.8	-0.3	173
174	-4.6	-4.1	-3.6	-3.2	-2.7	-2.2	-1.8	-1.3	-0.8	-0.4	174
175	-4.6	-4.1	-3.7	-3.2	-2.7	-2.3	-1.8	-1.3	-0.9	-0.4	175
176	-4.6	-4.2	-3.7	-3.2	-2.8	-2.3	-1.8	-1.4	-0.9	-0.5	176
177	-4.7	-4.2	-3.7	-3.3	-2.8	-2.4	-1.9	-1.4	-1.0	-0.5	177
178	-4.7	-4.2	-3.8	-3.3	-2.9	-2.4	-1.9	-1.5	-1.0	-0.5	178
179	-4.8	-4.3	-3.8	-3.4	-2.9	-2.4	-2.0	-1.5	-1.0	-0.6	179
180	-4.8	-4.3	-3.9	-3.4	-2.9	-2.5	-2.0	-1.5	-1.1	-0.6	180
181	-4.8	-4.4	-3.9	-3.4	-3.0	-2.5	-2.1	-1.6	-1.1	-0.7	181
182	-4.9	-4.4	-3.9	-3.5	-3.0	-2.6	-2.1	-1.6	-1.2	-0.7	182
183	-4.9	-4.4	-4.0	-3.5	-3.1	-2.6	-2.1	-1.7	-1.2	-0.7	183
184	-4.9	-4.5	-4.0	-3.6	-3.1	-2.6	-2.2	-1.7	-1.3	-0.8	184
185	-5.0	-4.5	-4.1	-3.6	-3.1	-2.7	-2.2	-1.8	-1.3	-0.8	185
186	-5.0	-4.6	-4.1	-3.6	-3.2	-2.7	-2.3	-1.8	-1.3	-0.9	186
187	-5.1	-4.6	-4.1	-3.7	-3.2	-2.8	-2.3	-1.8	-1.4	-0.9	187
188	-5.1	-4.6	-4.2	-3.7	-3.3	-2.8	-2.3	-1.9	-1.4	-1.0	188
189	-5.1	-4.7	-4.2	-3.8	-3.3	-2.8	-2.4	-1.9	-1.5	-1.0	189
190	-5.2	-4.7	-4.3	-3.8	-3.3	-2.9	-2.4	-2.0	-1.5	-1.0	190
191	-5.2	-4.8	-4.3	-3.8	-3.4	-2.9	-2.5	-2.0	-1.5	-1.1	191
192	-5.3	-4.8	-4.3	-3.9	-3.4	-3.0	-2.5	-2.0	-1.6	-1.1	192
193	-5.3	-4.8	-4.4	-3.9	-3.5	-3.0	-2.5	-2.1	-1.6	-1.2	193
194	-5.3	-4.9	-4.4	-4.0	-3.5	-3.0	-2.6	-2.1	-1.7	-1.2	194
195	-5.4	-4.9	-4.4	-4.0	-3.5	-3.1	-2.6	-2.2	-1.7	-1.2	195
196	-5.4	-4.9	-4.5	-4.0	-3.6	-3.1	-2.7	-2.2	-1.7	-1.3	196
197	-5.4	-5.0	-4.5	-4.1	-3.6	-3.2	-2.7	-2.2	-1.8	-1.3	197
198	-5.5	-5.0	-4.6	-4.1	-3.7	-3.2	-2.7	-2.3	-1.8	-1.4	198
199	-5.5	-5.1	-4.6	-4.1	-3.7	-3.2	-2.8	-2.3	-1.9	-1.4	199
200	-5.6	-5.1	-4.6	-4.2	-3.7	-3.3	-2.8	-2.4	-1.9	-1.4	200

API GRAVITY = 0.0 TO 4.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
200	-5.6	-5.1	-4.6	-4.2	-3.7	-3.3	-2.8	-2.4	-1.9	-1.4	200
201	-5.6	-5.1	-4.7	-4.2	-3.8	-3.3	-2.9	-2.4	-1.9	-1.5	201
202	-5.6	-5.2	-4.7	-4.3	-3.8	-3.4	-2.9	-2.4	-2.0	-1.5	202
203	-5.7	-5.2	-4.8	-4.3	-3.8	-3.4	-2.9	-2.5	-2.0	-1.6	203
204	-5.7	-5.3	-4.8	-4.3	-3.9	-3.4	-3.0	-2.5	-2.1	-1.6	204
205	-5.7	-5.3	-4.8	-4.4	-3.9	-3.5	-3.0	-2.6	-2.1	-1.7	205
206	-5.8	-5.3	-4.9	-4.4	-4.0	-3.5	-3.1	-2.6	-2.1	-1.7	206
207	-5.8	-5.4	-4.9	-4.5	-4.0	-3.5	-3.1	-2.6	-2.2	-1.7	207
208	-5.9	-5.4	-5.0	-4.5	-4.0	-3.6	-3.1	-2.7	-2.2	-1.8	208
209	-5.9	-5.4	-5.0	-4.5	-4.1	-3.6	-3.2	-2.7	-2.3	-1.8	209
210	-5.9	-5.5	-5.0	-4.6	-4.1	-3.7	-3.2	-2.8	-2.3	-1.9	210
211	-6.0	-5.5	-5.1	-4.6	-4.2	-3.7	-3.3	-2.8	-2.3	-1.9	211
212	-6.0	-5.6	-5.1	-4.7	-4.2	-3.7	-3.3	-2.8	-2.4	-1.9	212
213	-6.1	-5.6	-5.1	-4.7	-4.2	-3.8	-3.3	-2.9	-2.4	-2.0	213
214	-6.1	-5.6	-5.2	-4.7	-4.3	-3.8	-3.4	-2.9	-2.5	-2.0	214
215	-6.1	-5.7	-5.2	-4.8	-4.3	-3.9	-3.4	-3.0	-2.5	-2.1	215
216	-6.2	-5.7	-5.3	-4.8	-4.4	-3.9	-3.5	-3.0	-2.5	-2.1	216
217	-6.2	-5.8	-5.3	-4.8	-4.4	-3.9	-3.5	-3.0	-2.6	-2.1	217
218	-6.2	-5.8	-5.3	-4.9	-4.4	-4.0	-3.5	-3.1	-2.6	-2.2	218
219	-6.3	-5.8	-5.4	-4.9	-4.5	-4.0	-3.6	-3.1	-2.7	-2.2	219
220	-6.3	-5.9	-5.4	-5.0	-4.5	-4.1	-3.6	-3.2	-2.7	-2.3	220
221	-6.4	-5.9	-5.5	-5.0	-4.6	-4.1	-3.7	-3.2	-2.8	-2.3	221
222	-6.4	-5.9	-5.5	-5.0	-4.6	-4.1	-3.7	-3.2	-2.8	-2.3	222
223	-6.4	-6.0	-5.5	-5.1	-4.6	-4.2	-3.7	-3.3	-2.8	-2.4	223
224	-6.5	-6.0	-5.6	-5.1	-4.7	-4.2	-3.8	-3.3	-2.9	-2.4	224
225	-6.5	-6.1	-5.6	-5.2	-4.7	-4.3	-3.8	-3.4	-2.9	-2.5	225
226	-6.5	-6.1	-5.6	-5.2	-4.7	-4.3	-3.8	-3.4	-3.0	-2.5	226
227	-6.6	-6.1	-5.7	-5.2	-4.8	-4.3	-3.9	-3.4	-3.0	-2.5	227
228	-6.6	-6.2	-5.7	-5.3	-4.8	-4.4	-3.9	-3.5	-3.0	-2.6	228
229	-6.7	-6.2	-5.8	-5.3	-4.9	-4.4	-4.0	-3.5	-3.1	-2.6	229
230	-6.7	-6.2	-5.8	-5.4	-4.9	-4.5	-4.0	-3.6	-3.1	-2.7	230
231	-6.7	-6.3	-5.8	-5.4	-4.9	-4.5	-4.0	-3.6	-3.2	-2.7	231
232	-6.8	-6.3	-5.9	-5.4	-5.0	-4.5	-4.1	-3.6	-3.2	-2.7	232
233	-6.8	-6.4	-5.9	-5.5	-5.0	-4.6	-4.1	-3.7	-3.2	-2.8	233
234	-6.8	-6.4	-6.0	-5.5	-5.1	-4.6	-4.2	-3.7	-3.3	-2.8	234
235	-6.9	-6.4	-6.0	-5.5	-5.1	-4.6	-4.2	-3.8	-3.3	-2.9	235
236	-6.9	-6.5	-6.0	-5.6	-5.1	-4.7	-4.2	-3.8	-3.3	-2.9	236
237	-7.0	-6.5	-6.1	-5.6	-5.2	-4.7	-4.3	-3.8	-3.4	-2.9	237
238	-7.0	-6.5	-6.1	-5.7	-5.2	-4.8	-4.3	-3.9	-3.4	-3.0	238
239	-7.0	-6.6	-6.1	-5.7	-5.3	-4.8	-4.4	-3.9	-3.5	-3.0	239
240	-7.1	-6.6	-6.2	-5.7	-5.3	-4.8	-4.4	-4.0	-3.5	-3.1	240
241	-7.1	-6.7	-6.2	-5.8	-5.3	-4.9	-4.4	-4.0	-3.5	-3.1	241
242	-7.1	-6.7	-6.3	-5.8	-5.4	-4.9	-4.5	-4.0	-3.6	-3.1	242
243	-7.2	-6.7	-6.3	-5.8	-5.4	-5.0	-4.5	-4.1	-3.6	-3.2	243
244	-7.2	-6.8	-6.3	-5.9	-5.4	-5.0	-4.6	-4.1	-3.7	-3.2	244
245	-7.3	-6.8	-6.4	-5.9	-5.5	-5.0	-4.6	-4.1	-3.7	-3.3	245
246	-7.3	-6.9	-6.4	-6.0	-5.5	-5.1	-4.6	-4.2	-3.7	-3.3	246
247	-7.3	-6.9	-6.4	-6.0	-5.6	-5.1	-4.7	-4.2	-3.8	-3.3	247
248	-7.4	-6.9	-6.5	-6.0	-5.6	-5.2	-4.7	-4.3	-3.8	-3.4	248
249	-7.4	-7.0	-6.5	-6.1	-5.6	-5.2	-4.8	-4.3	-3.9	-3.4	249
250	-7.4	-7.0	-6.6	-6.1	-5.7	-5.2	-4.8	-4.3	-3.9	-3.5	250

API GRAVITY = 0.0 TO 4.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
250	-7.4	-7.0	-6.6	-6.1	-5.7	-5.2	-4.8	-4.3	-3.9	-3.5	250
251	-7.5	-7.0	-6.6	-6.2	-5.7	-5.3	-4.8	-4.4	-3.9	-3.5	251
252	-7.5	-7.1	-6.6	-6.2	-5.8	-5.3	-4.9	-4.4	-4.0	-3.5	252
253	-7.6	-7.1	-6.7	-6.2	-5.8	-5.3	-4.9	-4.5	-4.0	-3.6	253
254	-7.6	-7.2	-6.7	-6.3	-5.8	-5.4	-4.9	-4.5	-4.1	-3.6	254
255	-7.6	-7.2	-6.7	-6.3	-5.9	-5.4	-5.0	-4.5	-4.1	-3.7	255
256	-7.7	-7.2	-6.8	-6.3	-5.9	-5.5	-5.0	-4.6	-4.1	-3.7	256
257	-7.7	-7.3	-6.8	-6.4	-5.9	-5.5	-5.1	-4.6	-4.2	-3.7	257
258	-7.7	-7.3	-6.9	-6.4	-6.0	-5.5	-5.1	-4.7	-4.2	-3.8	258
259	-7.8	-7.3	-6.9	-6.5	-6.0	-5.6	-5.1	-4.7	-4.3	-3.8	259
260	-7.8	-7.4	-6.9	-6.5	-6.1	-5.6	-5.2	-4.7	-4.3	-3.9	260
261	-7.9	-7.4	-7.0	-6.5	-6.1	-5.7	-5.2	-4.8	-4.3	-3.9	261
262	-7.9	-7.5	-7.0	-6.6	-6.1	-5.7	-5.3	-4.8	-4.4	-3.9	262
263	-7.9	-7.5	-7.1	-6.6	-6.2	-5.7	-5.3	-4.9	-4.4	-4.0	263
264	-8.0	-7.5	-7.1	-6.6	-6.2	-5.8	-5.3	-4.9	-4.5	-4.0	264
265	-8.0	-7.6	-7.1	-6.7	-6.2	-5.8	-5.4	-4.9	-4.5	-4.1	265
266	-8.0	-7.6	-7.2	-6.7	-6.3	-5.8	-5.4	-5.0	-4.5	-4.1	266
267	-8.1	-7.6	-7.2	-6.8	-6.3	-5.9	-5.4	-5.0	-4.6	-4.1	267
268	-8.1	-7.7	-7.2	-6.8	-6.4	-5.9	-5.5	-5.0	-4.6	-4.2	268
269	-8.2	-7.7	-7.3	-6.8	-6.4	-6.0	-5.5	-5.1	-4.7	-4.2	269
270	-8.2	-7.7	-7.3	-6.9	-6.4	-6.0	-5.6	-5.1	-4.7	-4.3	270
271	-8.2	-7.8	-7.3	-6.9	-6.5	-6.0	-5.6	-5.2	-4.7	-4.3	271
272	-8.3	-7.8	-7.4	-6.9	-6.5	-6.1	-5.6	-5.2	-4.8	-4.3	272
273	-8.3	-7.9	-7.4	-7.0	-6.6	-6.1	-5.7	-5.2	-4.8	-4.4	273
274	-8.3	-7.9	-7.5	-7.0	-6.6	-6.2	-5.7	-5.3	-4.8	-4.4	274
275	-8.4	-7.9	-7.5	-7.1	-6.6	-6.2	-5.8	-5.3	-4.9	-4.5	275
276	-8.4	-8.0	-7.5	-7.1	-6.7	-6.2	-5.8	-5.4	-4.9	-4.5	276
277	-8.4	-8.0	-7.6	-7.1	-6.7	-6.3	-5.8	-5.4	-5.0	-4.5	277
278	-8.5	-8.0	-7.6	-7.2	-6.7	-6.3	-5.9	-5.4	-5.0	-4.6	278
279	-8.5	-8.1	-7.6	-7.2	-6.8	-6.3	-5.9	-5.5	-5.0	-4.6	279
280	-8.6	-8.1	-7.7	-7.3	-6.8	-6.4	-5.9	-5.5	-5.1	-4.6	280
281	-8.6	-8.2	-7.7	-7.3	-6.9	-6.4	-6.0	-5.6	-5.1	-4.7	281
282	-8.6	-8.2	-7.8	-7.3	-6.9	-6.5	-6.0	-5.6	-5.2	-4.7	282
283	-8.7	-8.2	-7.8	-7.4	-6.9	-6.5	-6.1	-5.6	-5.2	-4.8	283
284	-8.7	-8.3	-7.8	-7.4	-7.0	-6.5	-6.1	-5.7	-5.2	-4.8	284
285	-8.7	-8.3	-7.9	-7.4	-7.0	-6.6	-6.1	-5.7	-5.3	-4.8	285
286	-8.8	-8.3	-7.9	-7.5	-7.0	-6.6	-6.2	-5.7	-5.3	-4.9	286
287	-8.8	-8.4	-7.9	-7.5	-7.1	-6.6	-6.2	-5.8	-5.4	-4.9	287
288	-8.8	-8.4	-8.0	-7.6	-7.1	-6.7	-6.3	-5.8	-5.4	-5.0	288
289	-8.9	-8.5	-8.0	-7.6	-7.2	-6.7	-6.3	-5.9	-5.4	-5.0	289
290	-8.9	-8.5	-8.1	-7.6	-7.2	-6.8	-6.3	-5.9	-5.5	-5.0	290
291	-9.0	-8.5	-8.1	-7.7	-7.2	-6.8	-6.4	-5.9	-5.5	-5.1	291
292	-9.0	-8.6	-8.1	-7.7	-7.3	-6.8	-6.4	-6.0	-5.5	-5.1	292
293	-9.0	-8.6	-8.2	-7.7	-7.3	-6.9	-6.4	-6.0	-5.6	-5.2	293
294	-9.1	-8.6	-8.2	-7.8	-7.3	-6.9	-6.5	-6.1	-5.6	-5.2	294
295	-9.1	-8.7	-8.2	-7.8	-7.4	-6.9	-6.5	-6.1	-5.7	-5.2	295
296	-9.1	-8.7	-8.3	-7.8	-7.4	-7.0	-6.6	-6.1	-5.7	-5.3	296
297	-9.2	-8.7	-8.3	-7.9	-7.5	-7.0	-6.6	-6.2	-5.7	-5.3	297
298	-9.2	-8.8	-8.4	-7.9	-7.5	-7.1	-6.6	-6.2	-5.8	-5.3	298
299	-9.2	-8.8	-8.4	-8.0	-7.5	-7.1	-6.7	-6.2	-5.8	-5.4	299
300	-9.3	-8.9	-8.4	-8.0	-7.6	-7.1	-6.7	-6.3	-5.9	-5.4	300

API GRAVITY = 0.0 TO 4.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	
0	7.7	8.2	8.7	9.3	9.8	10.3	10.8	11.3	11.9	12.4	0
1	7.6	8.2	8.7	9.2	9.7	10.2	10.8	11.3	11.8	12.3	1
2	7.6	8.1	8.6	9.2	9.7	10.2	10.7	11.2	11.8	12.3	2
3	7.6	8.1	8.6	9.1	9.6	10.2	10.7	11.2	11.7	12.2	3
4	7.5	8.0	8.5	9.1	9.6	10.1	10.6	11.1	11.7	12.2	4
5	7.5	8.0	8.5	9.0	9.5	10.1	10.6	11.1	11.6	12.1	5
6	7.4	7.9	8.5	9.0	9.5	10.0	10.5	11.0	11.6	12.1	6
7	7.4	7.9	8.4	8.9	9.4	10.0	10.5	11.0	11.5	12.0	7
8	7.3	7.8	8.4	8.9	9.4	9.9	10.4	11.0	11.5	12.0	8
9	7.3	7.8	8.3	8.8	9.4	9.9	10.4	10.9	11.4	11.9	9
10	7.2	7.8	8.3	8.8	9.3	9.8	10.3	10.9	11.4	11.9	10
11	7.2	7.7	8.2	8.7	9.3	9.8	10.3	10.8	11.3	11.8	11
12	7.1	7.7	8.2	8.7	9.2	9.7	10.2	10.8	11.3	11.8	12
13	7.1	7.6	8.1	8.6	9.2	9.7	10.2	10.7	11.2	11.7	13
14	7.1	7.6	8.1	8.6	9.1	9.6	10.2	10.7	11.2	11.7	14
15	7.0	7.5	8.0	8.6	9.1	9.6	10.1	10.6	11.1	11.7	15
16	7.0	7.5	8.0	8.5	9.0	9.5	10.1	10.6	11.1	11.6	16
17	6.9	7.4	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.6	17
18	6.9	7.4	7.9	8.4	8.9	9.4	10.0	10.5	11.0	11.5	18
19	6.8	7.3	7.9	8.4	8.9	9.4	9.9	10.4	10.9	11.5	19
20	6.8	7.3	7.8	8.3	8.8	9.4	9.9	10.4	10.9	11.4	20
21	6.7	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.4	21
22	6.7	7.2	7.7	8.2	8.7	9.3	9.8	10.3	10.8	11.3	22
23	6.7	7.2	7.7	8.2	8.7	9.2	9.7	10.2	10.8	11.3	23
24	6.6	7.1	7.6	8.1	8.7	9.2	9.7	10.2	10.7	11.2	24
25	6.6	7.1	7.6	8.1	8.6	9.1	9.6	10.1	10.7	11.2	25
26	6.5	7.0	7.5	8.1	8.6	9.1	9.6	10.1	10.6	11.1	26
27	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.6	11.1	27
28	6.4	6.9	7.4	8.0	8.5	9.0	9.5	10.0	10.5	11.0	28
29	6.4	6.9	7.4	7.9	8.4	8.9	9.4	10.0	10.5	11.0	29
30	6.3	6.8	7.4	7.9	8.4	8.9	9.4	9.9	10.4	10.9	30
31	6.3	6.8	7.3	7.8	8.3	8.8	9.4	9.9	10.4	10.9	31
32	6.2	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	32
33	6.2	6.7	7.2	7.7	8.2	8.7	9.3	9.8	10.3	10.8	33
34	6.2	6.7	7.2	7.7	8.2	8.7	9.2	9.7	10.2	10.7	34
35	6.1	6.6	7.1	7.6	8.1	8.7	9.2	9.7	10.2	10.7	35
36	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	10.1	10.6	36
37	6.0	6.5	7.0	7.5	8.1	8.6	9.1	9.6	10.1	10.6	37
38	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	38
39	5.9	6.4	6.9	7.5	8.0	8.5	9.0	9.5	10.0	10.5	39
40	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	9.9	10.5	40
41	5.8	6.3	6.9	7.4	7.9	8.4	8.9	9.4	9.9	10.4	41
42	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.4	42
43	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.3	43
44	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	9.8	10.3	44
45	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	9.7	10.2	45
46	5.6	6.1	6.6	7.1	7.6	8.1	8.7	9.2	9.7	10.2	46
47	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	10.1	47
48	5.5	6.0	6.5	7.0	7.5	8.1	8.6	9.1	9.6	10.1	48
49	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	49
50	5.4	5.9	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	50

API GRAVITY = 5.0 TO 9.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	
50	5.4	5.9	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	50
51	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	9.9	51
52	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	9.9	52
53	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	9.8	53
54	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	9.8	54
55	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	9.7	55
56	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	9.7	56
57	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	57
58	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	58
59	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	59
60	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	60
61	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	61
62	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	62
63	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	63
64	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	64
65	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	65
66	4.7	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	66
67	4.7	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	67
68	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	68
69	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	69
70	4.6	5.1	5.6	6.0	6.5	7.0	7.5	8.0	8.5	9.0	70
71	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	71
72	4.5	5.0	5.5	6.0	6.5	7.0	7.4	7.9	8.4	8.9	72
73	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9	73
74	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.8	8.3	8.8	74
75	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	75
76	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.7	76
77	4.3	4.7	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	77
78	4.2	4.7	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	78
79	4.2	4.7	5.2	5.6	6.1	6.6	7.1	7.6	8.1	8.6	79
80	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	80
81	4.1	4.6	5.1	5.6	6.0	6.5	7.0	7.5	8.0	8.5	81
82	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	82
83	4.0	4.5	5.0	5.5	6.0	6.5	6.9	7.4	7.9	8.4	83
84	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	84
85	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.3	7.8	8.3	85
86	3.9	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	86
87	3.8	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.7	8.2	87
88	3.8	4.3	4.8	5.2	5.7	6.2	6.7	7.2	7.7	8.2	88
89	3.7	4.2	4.7	5.2	5.7	6.2	6.7	7.2	7.7	8.1	89
90	3.7	4.2	4.7	5.2	5.6	6.1	6.6	7.1	7.6	8.1	90
91	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.0	91
92	3.6	4.1	4.6	5.1	5.6	6.0	6.5	7.0	7.5	8.0	92
93	3.6	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	93
94	3.5	4.0	4.5	5.0	5.5	6.0	6.4	6.9	7.4	7.9	94
95	3.5	4.0	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	95
96	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.8	7.3	7.8	96
97	3.4	3.9	4.4	4.8	5.3	5.8	6.3	6.8	7.3	7.8	97
98	3.3	3.8	4.3	4.8	5.3	5.8	6.3	6.7	7.2	7.7	98
99	3.3	3.8	4.3	4.8	5.2	5.7	6.2	6.7	7.2	7.7	99
100	3.2	3.7	4.2	4.7	5.2	5.7	6.2	6.7	7.1	7.6	100

API GRAVITY = 5.0 TO 9.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE										TEMP. F
	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	
	CORRESPONDING API GRAVITY AT 60 F										
100	3.2	3.7	4.2	4.7	5.2	5.7	6.2	6.7	7.1	7.6	100
101	3.2	3.7	4.2	4.7	5.2	5.6	6.1	6.6	7.1	7.6	101
102	3.2	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.5	102
103	3.1	3.6	4.1	4.6	5.1	5.5	6.0	6.5	7.0	7.5	103
104	3.1	3.6	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.4	104
105	3.0	3.5	4.0	4.5	5.0	5.5	5.9	6.4	6.9	7.4	105
106	3.0	3.5	4.0	4.4	4.9	5.4	5.9	6.4	6.9	7.4	106
107	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.3	6.8	7.3	107
108	2.9	3.4	3.9	4.4	4.8	5.3	5.8	6.3	6.8	7.3	108
109	2.9	3.3	3.8	4.3	4.8	5.3	5.8	6.2	6.7	7.2	109
110	2.8	3.3	3.8	4.3	4.7	5.2	5.7	6.2	6.7	7.2	110
111	2.8	3.3	3.7	4.2	4.7	5.2	5.7	6.2	6.6	7.1	111
112	2.7	3.2	3.7	4.2	4.7	5.1	5.6	6.1	6.6	7.1	112
113	2.7	3.2	3.7	4.1	4.6	5.1	5.6	6.1	6.5	7.0	113
114	2.6	3.1	3.6	4.1	4.6	5.1	5.5	6.0	6.5	7.0	114
115	2.6	3.1	3.6	4.0	4.5	5.0	5.5	6.0	6.5	6.9	115
116	2.6	3.0	3.5	4.0	4.5	5.0	5.4	5.9	6.4	6.9	116
117	2.5	3.0	3.5	4.0	4.4	4.9	5.4	5.9	6.4	6.8	117
118	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.8	6.3	6.8	118
119	2.4	2.9	3.4	3.9	4.4	4.8	5.3	5.8	6.3	6.8	119
120	2.4	2.9	3.3	3.8	4.3	4.8	5.3	5.7	6.2	6.7	120
121	2.3	2.8	3.3	3.8	4.3	4.7	5.2	5.7	6.2	6.7	121
122	2.3	2.8	3.3	3.7	4.2	4.7	5.2	5.7	6.1	6.6	122
123	2.3	2.7	3.2	3.7	4.2	4.7	5.1	5.6	6.1	6.6	123
124	2.2	2.7	3.2	3.7	4.1	4.6	5.1	5.6	6.0	6.5	124
125	2.2	2.6	3.1	3.6	4.1	4.6	5.0	5.5	6.0	6.5	125
126	2.1	2.6	3.1	3.6	4.0	4.5	5.0	5.5	6.0	6.4	126
127	2.1	2.6	3.0	3.5	4.0	4.5	5.0	5.4	5.9	6.4	127
128	2.0	2.5	3.0	3.5	4.0	4.4	4.9	5.4	5.9	6.3	128
129	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.3	5.8	6.3	129
130	2.0	2.4	2.9	3.4	3.9	4.3	4.8	5.3	5.8	6.3	130
131	1.9	2.4	2.9	3.3	3.8	4.3	4.8	5.3	5.7	6.2	131
132	1.9	2.3	2.8	3.3	3.8	4.3	4.7	5.2	5.7	6.2	132
133	1.8	2.3	2.8	3.3	3.7	4.2	4.7	5.2	5.6	6.1	133
134	1.8	2.3	2.7	3.2	3.7	4.2	4.6	5.1	5.6	6.1	134
135	1.7	2.2	2.7	3.2	3.6	4.1	4.6	5.1	5.5	6.0	135
136	1.7	2.2	2.7	3.1	3.6	4.1	4.6	5.0	5.5	6.0	136
137	1.7	2.1	2.6	3.1	3.6	4.0	4.5	5.0	5.5	5.9	137
138	1.6	2.1	2.6	3.0	3.5	4.0	4.5	4.9	5.4	5.9	138
139	1.6	2.0	2.5	3.0	3.5	3.9	4.4	4.9	5.4	5.8	139
140	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.8	5.3	5.8	140
141	1.5	2.0	2.4	2.9	3.4	3.9	4.3	4.8	5.3	5.8	141
142	1.4	1.9	2.4	2.9	3.3	3.8	4.3	4.8	5.2	5.7	142
143	1.4	1.9	2.3	2.8	3.3	3.8	4.2	4.7	5.2	5.7	143
144	1.4	1.8	2.3	2.8	3.3	3.7	4.2	4.7	5.1	5.6	144
145	1.3	1.8	2.3	2.7	3.2	3.7	4.2	4.6	5.1	5.6	145
146	1.3	1.7	2.2	2.7	3.2	3.6	4.1	4.6	5.1	5.5	146
147	1.2	1.7	2.2	2.6	3.1	3.6	4.1	4.5	5.0	5.5	147
148	1.2	1.7	2.1	2.6	3.1	3.5	4.0	4.5	5.0	5.4	148
149	1.1	1.6	2.1	2.6	3.0	3.5	4.0	4.4	4.9	5.4	149
150	1.1	1.6	2.0	2.5	3.0	3.5	3.9	4.4	4.9	5.3	150

API GRAVITY = 5.0 TO 9.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	
150	1.1	1.6	2.0	2.5	3.0	3.5	3.9	4.4	4.9	5.3	150
151	1.1	1.5	2.0	2.5	2.9	3.4	3.9	4.4	4.8	5.3	151
152	1.0	1.5	2.0	2.4	2.9	3.4	3.8	4.3	4.8	5.3	152
153	1.0	1.4	1.9	2.4	2.9	3.3	3.8	4.3	4.7	5.2	153
154	0.9	1.4	1.9	2.3	2.8	3.3	3.8	4.2	4.7	5.2	154
155	0.9	1.4	1.8	2.3	2.8	3.2	3.7	4.2	4.6	5.1	155
156	0.9	1.3	1.8	2.3	2.7	3.2	3.7	4.1	4.6	5.1	156
157	0.8	1.3	1.7	2.2	2.7	3.2	3.6	4.1	4.6	5.0	157
158	0.8	1.2	1.7	2.2	2.6	3.1	3.6	4.0	4.5	5.0	158
159	0.7	1.2	1.7	2.1	2.6	3.1	3.5	4.0	4.5	4.9	159
160	0.7	1.2	1.6	2.1	2.6	3.0	3.5	4.0	4.4	4.9	160
161	0.6	1.1	1.6	2.0	2.5	3.0	3.4	3.9	4.4	4.8	161
162	0.6	1.1	1.5	2.0	2.5	2.9	3.4	3.9	4.3	4.8	162
163	0.6	1.0	1.5	2.0	2.4	2.9	3.4	3.8	4.3	4.8	163
164	0.5	1.0	1.5	1.9	2.4	2.8	3.3	3.8	4.2	4.7	164
165	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7	165
166	0.4	0.9	1.4	1.8	2.3	2.8	3.2	3.7	4.2	4.6	166
167	0.4	0.9	1.3	1.8	2.3	2.7	3.2	3.6	4.1	4.6	167
168	0.3	0.8	1.3	1.7	2.2	2.7	3.1	3.6	4.1	4.5	168
169	0.3	0.8	1.2	1.7	2.2	2.6	3.1	3.6	4.0	4.5	169
170	0.3	0.7	1.2	1.7	2.1	2.6	3.1	3.5	4.0	4.4	170
171	0.2	0.7	1.2	1.6	2.1	2.5	3.0	3.5	3.9	4.4	171
172	0.2	0.6	1.1	1.6	2.0	2.5	3.0	3.4	3.9	4.4	172
173	0.1	0.6	1.1	1.5	2.0	2.5	2.9	3.4	3.8	4.3	173
174	0.1	0.6	1.0	1.5	2.0	2.4	2.9	3.3	3.8	4.3	174
175	0.1	0.5	1.0	1.4	1.9	2.4	2.8	3.3	3.8	4.2	175
176	0.0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	176
177	0.0	0.4	0.9	1.4	1.8	2.3	2.7	3.2	3.7	4.1	177
178	-0.1	0.4	0.9	1.3	1.8	2.2	2.7	3.2	3.6	4.1	178
179	-0.1	0.4	0.8	1.3	1.7	2.2	2.7	3.1	3.6	4.0	179
180	-0.2	0.3	0.8	1.2	1.7	2.2	2.6	3.1	3.5	4.0	180
181	-0.2	0.3	0.7	1.2	1.7	2.1	2.6	3.0	3.5	4.0	181
182	-0.2	0.2	0.7	1.1	1.6	2.1	2.5	3.0	3.5	3.9	182
183	-0.3	0.2	0.6	1.1	1.6	2.0	2.5	2.9	3.4	3.9	183
184	-0.3	0.1	0.6	1.1	1.5	2.0	2.4	2.9	3.4	3.8	184
185	-0.4	0.1	0.6	1.0	1.5	1.9	2.4	2.9	3.3	3.8	185
186	-0.4	0.1	0.5	1.0	1.4	1.9	2.4	2.8	3.3	3.7	186
187	-0.5	0.0	0.5	0.9	1.4	1.9	2.3	2.8	3.2	3.7	187
188	-0.5	0.0	0.4	0.9	1.4	1.8	2.3	2.7	3.2	3.6	188
189	-0.5	-0.1	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	189
190	-0.6	-0.1	0.4	0.8	1.3	1.7	2.2	2.6	3.1	3.6	190
191	-0.6	-0.2	0.3	0.8	1.2	1.7	2.1	2.6	3.1	3.5	191
192	-0.7	-0.2	0.3	0.7	1.2	1.6	2.1	2.6	3.0	3.5	192
193	-0.7	-0.2	0.2	0.7	1.1	1.6	2.1	2.5	3.0	3.4	193
194	-0.7	-0.3	0.2	0.6	1.1	1.6	2.0	2.5	2.9	3.4	194
195	-0.8	-0.3	0.1	0.6	1.1	1.5	2.0	2.4	2.9	3.3	195
196	-0.8	-0.4	0.1	0.6	1.0	1.5	1.9	2.4	2.8	3.3	196
197	-0.9	-0.4	0.1	0.5	1.0	1.4	1.9	2.3	2.8	3.2	197
198	-0.9	-0.5	0.0	0.5	0.9	1.4	1.8	2.3	2.8	3.2	198
199	-0.9	-0.5	0.0	0.4	0.9	1.3	1.8	2.3	2.7	3.2	199
200	-1.0	-0.5	-0.1	0.4	0.8	1.3	1.8	2.2	2.7	3.1	200

API GRAVITY = 5.0 TO 9.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	
200	-1.0	-0.5	-0.1	0.4	0.8	1.3	1.8	2.2	2.7	3.1	200
201	-1.0	-0.6	-0.1	0.3	0.8	1.3	1.7	2.2	2.6	3.1	201
202	-1.1	-0.6	-0.2	0.3	0.8	1.2	1.7	2.1	2.6	3.0	202
203	-1.1	-0.7	-0.2	0.3	0.7	1.2	1.6	2.1	2.5	3.0	203
204	-1.2	-0.7	-0.2	0.2	0.7	1.1	1.6	2.0	2.5	2.9	204
205	-1.2	-0.7	-0.3	0.2	0.6	1.1	1.5	2.0	2.4	2.9	205
206	-1.2	-0.8	-0.3	0.1	0.6	1.0	1.5	1.9	2.4	2.9	206
207	-1.3	-0.8	-0.4	0.1	0.5	1.0	1.5	1.9	2.4	2.8	207
208	-1.3	-0.9	-0.4	0.1	0.5	1.0	1.4	1.9	2.3	2.8	208
209	-1.4	-0.9	-0.5	0.0	0.5	0.9	1.4	1.8	2.3	2.7	209
210	-1.4	-0.9	-0.5	0.0	0.4	0.9	1.3	1.8	2.2	2.7	210
211	-1.4	-1.0	-0.5	-0.1	0.4	0.8	1.3	1.7	2.2	2.6	211
212	-1.5	-1.0	-0.6	-0.1	0.3	0.8	1.2	1.7	2.1	2.6	212
213	-1.5	-1.1	-0.6	-0.2	0.3	0.7	1.2	1.6	2.1	2.6	213
214	-1.6	-1.1	-0.7	-0.2	0.3	0.7	1.2	1.6	2.1	2.5	214
215	-1.6	-1.2	-0.7	-0.3	0.2	0.7	1.1	1.6	2.0	2.5	215
216	-1.6	-1.2	-0.7	-0.3	0.2	0.6	1.1	1.5	2.0	2.4	216
217	-1.7	-1.2	-0.8	-0.3	0.1	0.6	1.0	1.5	1.9	2.4	217
218	-1.7	-1.3	-0.8	-0.4	0.1	0.5	1.0	1.4	1.9	2.3	218
219	-1.8	-1.3	-0.9	-0.4	0.0	0.5	0.9	1.4	1.8	2.3	219
220	-1.8	-1.4	-0.9	-0.5	0.0	0.4	0.9	1.3	1.8	2.2	220
221	-1.9	-1.4	-0.9	-0.5	-0.1	0.4	0.9	1.3	1.8	2.2	221
222	-1.9	-1.4	-1.0	-0.5	-0.1	0.4	0.8	1.3	1.7	2.2	222
223	-1.9	-1.5	-1.0	-0.6	-0.1	0.3	0.8	1.2	1.7	2.1	223
224	-2.0	-1.5	-1.1	-0.6	-0.2	0.3	0.7	1.2	1.6	2.1	224
225	-2.0	-1.6	-1.1	-0.7	-0.2	0.2	0.7	1.1	1.6	2.0	225
226	-2.1	-1.6	-1.2	-0.7	-0.3	0.2	0.6	1.1	1.5	2.0	226
227	-2.1	-1.6	-1.2	-0.8	-0.3	0.2	0.6	1.0	1.5	1.9	227
228	-2.1	-1.7	-1.2	-0.8	-0.3	0.1	0.6	1.0	1.5	1.9	228
229	-2.2	-1.7	-1.3	-0.8	-0.4	0.1	0.5	1.0	1.4	1.9	229
230	-2.2	-1.8	-1.3	-0.9	-0.4	0.0	0.5	0.9	1.4	1.8	230
231	-2.3	-1.8	-1.4	-0.9	-0.5	0.0	0.4	0.9	1.3	1.8	231
232	-2.3	-1.8	-1.4	-1.0	-0.5	-0.1	0.4	0.8	1.3	1.7	232
233	-2.3	-1.9	-1.4	-1.0	-0.6	-0.1	0.3	0.8	1.2	1.7	233
234	-2.4	-1.9	-1.5	-1.0	-0.6	-0.1	0.3	0.7	1.2	1.6	234
235	-2.4	-2.0	-1.5	-1.1	-0.6	-0.2	0.3	0.7	1.2	1.6	235
236	-2.5	-2.0	-1.6	-1.1	-0.7	-0.2	0.2	0.7	1.1	1.6	236
237	-2.5	-2.1	-1.6	-1.2	-0.7	-0.3	0.2	0.6	1.1	1.5	237
238	-2.5	-2.1	-1.6	-1.2	-0.8	-0.3	0.1	0.6	1.0	1.5	238
239	-2.6	-2.1	-1.7	-1.2	-0.8	-0.4	0.1	0.5	1.0	1.4	239
240	-2.6	-2.2	-1.7	-1.3	-0.8	-0.4	0.1	0.5	0.9	1.4	240
241	-2.7	-2.2	-1.8	-1.3	-0.9	-0.4	0.0	0.5	0.9	1.3	241
242	-2.7	-2.3	-1.8	-1.4	-0.9	-0.5	0.0	0.4	0.9	1.3	242
243	-2.7	-2.3	-1.9	-1.4	-1.0	-0.5	-0.1	0.4	0.8	1.3	243
244	-2.8	-2.3	-1.9	-1.5	-1.0	-0.6	-0.1	0.3	0.8	1.2	244
245	-2.8	-2.4	-1.9	-1.5	-1.1	-0.6	-0.2	0.3	0.7	1.2	245
246	-2.9	-2.4	-2.0	-1.5	-1.1	-0.7	-0.2	0.2	0.7	1.1	246
247	-2.9	-2.5	-2.0	-1.6	-1.1	-0.7	-0.3	0.2	0.6	1.1	247
248	-2.9	-2.5	-2.1	-1.6	-1.2	-0.7	-0.3	0.2	0.6	1.0	248
249	-3.0	-2.5	-2.1	-1.7	-1.2	-0.8	-0.3	0.1	0.6	1.0	249
250	-3.0	-2.6	-2.1	-1.7	-1.3	-0.8	-0.4	0.1	0.5	1.0	250

API GRAVITY = 5.0 TO 9.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	
250	-3.0	-2.6	-2.1	-1.7	-1.3	-0.8	-0.4	0.1	0.5	1.0	250
251	-3.1	-2.6	-2.2	-1.7	-1.3	-0.9	-0.4	0.0	0.5	0.9	251
252	-3.1	-2.7	-2.2	-1.8	-1.3	-0.9	-0.5	0.0	0.4	0.9	252
253	-3.1	-2.7	-2.3	-1.8	-1.4	-0.9	-0.5	-0.1	0.4	0.8	253
254	-3.2	-2.7	-2.3	-1.9	-1.4	-1.0	-0.5	-0.1	0.3	0.8	254
255	-3.2	-2.8	-2.3	-1.9	-1.5	-1.0	-0.6	-0.1	0.3	0.7	255
256	-3.3	-2.8	-2.4	-1.9	-1.5	-1.1	-0.6	-0.2	0.3	0.7	256
257	-3.3	-2.9	-2.4	-2.0	-1.5	-1.1	-0.7	-0.2	0.2	0.7	257
258	-3.3	-2.9	-2.5	-2.0	-1.6	-1.1	-0.7	-0.3	0.2	0.6	258
259	-3.4	-2.9	-2.5	-2.1	-1.6	-1.2	-0.7	-0.3	0.1	0.6	259
260	-3.4	-3.0	-2.5	-2.1	-1.7	-1.2	-0.8	-0.4	0.1	0.5	260
261	-3.5	-3.0	-2.6	-2.1	-1.7	-1.3	-0.8	-0.4	0.1	0.5	261
262	-3.5	-3.1	-2.6	-2.2	-1.7	-1.3	-0.9	-0.4	0.0	0.4	262
263	-3.5	-3.1	-2.7	-2.2	-1.8	-1.4	-0.9	-0.5	0.0	0.4	263
264	-3.6	-3.1	-2.7	-2.3	-1.8	-1.4	-1.0	-0.5	-0.1	0.4	264
265	-3.6	-3.2	-2.7	-2.3	-1.9	-1.4	-1.0	-0.6	-0.1	0.3	265
266	-3.7	-3.2	-2.8	-2.3	-1.9	-1.5	-1.0	-0.6	-0.2	0.3	266
267	-3.7	-3.3	-2.8	-2.4	-2.0	-1.5	-1.1	-0.6	-0.2	0.2	267
268	-3.7	-3.3	-2.9	-2.4	-2.0	-1.6	-1.1	-0.7	-0.3	0.2	268
269	-3.8	-3.3	-2.9	-2.5	-2.0	-1.6	-1.2	-0.7	-0.3	0.1	269
270	-3.8	-3.4	-2.9	-2.5	-2.1	-1.6	-1.2	-0.8	-0.3	0.1	270
271	-3.9	-3.4	-3.0	-2.6	-2.1	-1.7	-1.2	-0.8	-0.4	0.1	271
272	-3.9	-3.5	-3.0	-2.6	-2.2	-1.7	-1.3	-0.9	-0.4	0.0	272
273	-3.9	-3.5	-3.1	-2.6	-2.2	-1.8	-1.3	-0.9	-0.5	0.0	273
274	-4.0	-3.5	-3.1	-2.7	-2.2	-1.8	-1.4	-0.9	-0.5	-0.1	274
275	-4.0	-3.6	-3.1	-2.7	-2.3	-1.8	-1.4	-1.0	-0.5	-0.1	275
276	-4.1	-3.6	-3.2	-2.8	-2.3	-1.9	-1.5	-1.0	-0.6	-0.2	276
277	-4.1	-3.7	-3.2	-2.8	-2.4	-1.9	-1.5	-1.1	-0.6	-0.2	277
278	-4.1	-3.7	-3.3	-2.8	-2.4	-2.0	-1.5	-1.1	-0.7	-0.2	278
279	-4.2	-3.7	-3.3	-2.9	-2.4	-2.0	-1.6	-1.1	-0.7	-0.3	279
280	-4.2	-3.8	-3.3	-2.9	-2.5	-2.1	-1.6	-1.2	-0.8	-0.3	280
281	-4.3	-3.8	-3.4	-3.0	-2.5	-2.1	-1.7	-1.2	-0.8	-0.4	281
282	-4.3	-3.9	-3.4	-3.0	-2.6	-2.1	-1.7	-1.3	-0.8	-0.4	282
283	-4.3	-3.9	-3.5	-3.0	-2.6	-2.2	-1.7	-1.3	-0.9	-0.4	283
284	-4.4	-3.9	-3.5	-3.1	-2.6	-2.2	-1.8	-1.4	-0.9	-0.5	284
285	-4.4	-4.0	-3.5	-3.1	-2.7	-2.3	-1.8	-1.4	-1.0	-0.5	285
286	-4.4	-4.0	-3.6	-3.2	-2.7	-2.3	-1.9	-1.4	-1.0	-0.6	286
287	-4.5	-4.1	-3.6	-3.2	-2.8	-2.3	-1.9	-1.5	-1.0	-0.6	287
288	-4.5	-4.1	-3.7	-3.2	-2.8	-2.4	-1.9	-1.5	-1.1	-0.7	288
289	-4.6	-4.1	-3.7	-3.3	-2.8	-2.4	-2.0	-1.6	-1.1	-0.7	289
290	-4.6	-4.2	-3.7	-3.3	-2.9	-2.5	-2.0	-1.6	-1.2	-0.7	290
291	-4.6	-4.2	-3.8	-3.4	-2.9	-2.5	-2.1	-1.6	-1.2	-0.8	291
292	-4.7	-4.3	-3.8	-3.4	-3.0	-2.5	-2.1	-1.7	-1.3	-0.8	292
293	-4.7	-4.3	-3.9	-3.4	-3.0	-2.6	-2.2	-1.7	-1.3	-0.9	293
294	-4.8	-4.3	-3.9	-3.5	-3.0	-2.6	-2.2	-1.8	-1.3	-0.9	294
295	-4.8	-4.4	-3.9	-3.5	-3.1	-2.7	-2.2	-1.8	-1.4	-0.9	295
296	-4.8	-4.4	-4.0	-3.6	-3.1	-2.7	-2.3	-1.8	-1.4	-1.0	296
297	-4.9	-4.5	-4.0	-3.6	-3.2	-2.7	-2.3	-1.9	-1.5	-1.0	297
298	-4.9	-4.5	-4.1	-3.6	-3.2	-2.8	-2.4	-1.9	-1.5	-1.1	298
299	-5.0	-4.5	-4.1	-3.7	-3.2	-2.8	-2.4	-2.0	-1.5	-1.1	299
300	-5.0	-4.6	-4.1	-3.7	-3.3	-2.9	-2.4	-2.0	-1.6	-1.2	300

API GRAVITY = 5.0 TO 9.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	
0	12.9	13.4	13.9	14.5	15.0	15.5	16.0	16.5	17.1	17.6	0
1	12.8	13.4	13.9	14.4	14.9	15.5	16.0	16.5	17.0	17.5	1
2	12.8	13.3	13.8	14.4	14.9	15.4	15.9	16.4	17.0	17.5	2
3	12.7	13.3	13.8	14.3	14.8	15.3	15.9	16.4	16.9	17.4	3
4	12.7	13.2	13.7	14.3	14.8	15.3	15.8	16.3	16.9	17.4	4
5	12.7	13.2	13.7	14.2	14.7	15.2	15.8	16.3	16.8	17.3	5
6	12.6	13.1	13.6	14.2	14.7	15.2	15.7	16.2	16.8	17.3	6
7	12.6	13.1	13.6	14.1	14.6	15.1	15.7	16.2	16.7	17.2	7
8	12.5	13.0	13.5	14.1	14.6	15.1	15.6	16.1	16.7	17.2	8
9	12.5	13.0	13.5	14.0	14.5	15.0	15.6	16.1	16.6	17.1	9
10	12.4	12.9	13.4	14.0	14.5	15.0	15.5	16.0	16.5	17.1	10
11	12.4	12.9	13.4	13.9	14.4	14.9	15.5	16.0	16.5	17.0	11
12	12.3	12.8	13.3	13.9	14.4	14.9	15.4	15.9	16.4	17.0	12
13	12.3	12.8	13.3	13.8	14.3	14.8	15.4	15.9	16.4	16.9	13
14	12.2	12.7	13.2	13.8	14.3	14.8	15.3	15.8	16.3	16.9	14
15	12.2	12.7	13.2	13.7	14.2	14.7	15.3	15.8	16.3	16.8	15
16	12.1	12.6	13.1	13.7	14.2	14.7	15.2	15.7	16.2	16.8	16
17	12.1	12.6	13.1	13.6	14.1	14.6	15.2	15.7	16.2	16.7	17
18	12.0	12.5	13.0	13.6	14.1	14.6	15.1	15.6	16.1	16.7	18
19	12.0	12.5	13.0	13.5	14.0	14.5	15.1	15.6	16.1	16.6	19
20	11.9	12.4	12.9	13.5	14.0	14.5	15.0	15.5	16.0	16.5	20
21	11.9	12.4	12.9	13.4	13.9	14.4	15.0	15.5	16.0	16.5	21
22	11.8	12.3	12.9	13.4	13.9	14.4	14.9	15.4	15.9	16.4	22
23	11.8	12.3	12.8	13.3	13.8	14.3	14.9	15.4	15.9	16.4	23
24	11.7	12.2	12.8	13.3	13.8	14.3	14.8	15.3	15.8	16.3	24
25	11.7	12.2	12.7	13.2	13.7	14.2	14.8	15.3	15.8	16.3	25
26	11.6	12.1	12.7	13.2	13.7	14.2	14.7	15.2	15.7	16.2	26
27	11.6	12.1	12.6	13.1	13.6	14.1	14.7	15.2	15.7	16.2	27
28	11.5	12.0	12.6	13.1	13.6	14.1	14.6	15.1	15.6	16.1	28
29	11.5	12.0	12.5	13.0	13.5	14.0	14.6	15.1	15.6	16.1	29
30	11.4	11.9	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	30
31	11.4	11.9	12.4	12.9	13.4	13.9	14.5	15.0	15.5	16.0	31
32	11.3	11.9	12.4	12.9	13.4	13.9	14.4	14.9	15.4	15.9	32
33	11.3	11.8	12.3	12.8	13.3	13.8	14.4	14.9	15.4	15.9	33
34	11.2	11.8	12.3	12.8	13.3	13.8	14.3	14.8	15.3	15.8	34
35	11.2	11.7	12.2	12.7	13.2	13.7	14.3	14.8	15.3	15.8	35
36	11.1	11.7	12.2	12.7	13.2	13.7	14.2	14.7	15.2	15.7	36
37	11.1	11.6	12.1	12.6	13.1	13.6	14.1	14.7	15.2	15.7	37
38	11.1	11.6	12.1	12.6	13.1	13.6	14.1	14.6	15.1	15.6	38
39	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.6	15.1	15.6	39
40	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	40
41	10.9	11.4	11.9	12.4	12.9	13.4	13.9	14.5	15.0	15.5	41
42	10.9	11.4	11.9	12.4	12.9	13.4	13.9	14.4	14.9	15.4	42
43	10.8	11.3	11.8	12.3	12.8	13.3	13.8	14.4	14.9	15.4	43
44	10.8	11.3	11.8	12.3	12.8	13.3	13.8	14.3	14.8	15.3	44
45	10.7	11.2	11.7	12.2	12.7	13.2	13.7	14.3	14.8	15.3	45
46	10.7	11.2	11.7	12.2	12.7	13.2	13.7	14.2	14.7	15.2	46
47	10.6	11.1	11.6	12.1	12.6	13.1	13.6	14.2	14.7	15.2	47
48	10.6	11.1	11.6	12.1	12.6	13.1	13.6	14.1	14.6	15.1	48
49	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.1	14.6	15.1	49
50	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	50

API GRAVITY = 10.0 TO 14.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	
50	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	50
51	10.4	10.9	11.4	11.9	12.4	12.9	13.4	14.0	14.5	15.0	51
52	10.4	10.9	11.4	11.9	12.4	12.9	13.4	13.9	14.4	14.9	52
53	10.3	10.8	11.3	11.8	12.3	12.8	13.3	13.9	14.4	14.9	53
54	10.3	10.8	11.3	11.8	12.3	12.8	13.3	13.8	14.3	14.8	54
55	10.2	10.7	11.2	11.7	12.2	12.7	13.2	13.7	14.3	14.8	55
56	10.2	10.7	11.2	11.7	12.2	12.7	13.2	13.7	14.2	14.7	56
57	10.1	10.6	11.1	11.6	12.1	12.6	13.1	13.7	14.2	14.7	57
58	10.1	10.6	11.1	11.6	12.1	12.6	13.1	13.6	14.1	14.6	58
59	10.0	10.5	11.0	11.5	12.0	12.5	13.1	13.6	14.1	14.6	59
60	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	60
61	10.0	10.5	11.0	11.5	12.0	12.4	12.9	13.4	13.9	14.4	61
62	9.9	10.4	10.9	11.4	11.9	12.4	12.9	13.4	13.9	14.4	62
63	9.9	10.4	10.9	11.4	11.9	12.4	12.9	13.3	13.8	14.3	63
64	9.8	10.3	10.8	11.3	11.8	12.3	12.8	13.3	13.8	14.3	64
65	9.8	10.3	10.8	11.3	11.8	12.3	12.8	13.3	13.7	14.2	65
66	9.7	10.2	10.7	11.2	11.7	12.2	12.7	13.2	13.7	14.2	66
67	9.7	10.2	10.7	11.2	11.7	12.2	12.7	13.2	13.6	14.1	67
68	9.6	10.1	10.6	11.1	11.6	12.1	12.6	13.1	13.6	14.1	68
69	9.6	10.1	10.6	11.1	11.6	12.1	12.6	13.1	13.5	14.0	69
70	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	70
71	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.4	13.9	71
72	9.4	9.9	10.4	10.9	11.4	11.9	12.4	12.9	13.4	13.9	72
73	9.4	9.9	10.4	10.9	11.4	11.9	12.4	12.9	13.3	13.8	73
74	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8	13.3	13.8	74
75	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8	13.2	13.7	75
76	9.2	9.7	10.2	10.7	11.2	11.7	12.2	12.7	13.2	13.7	76
77	9.2	9.7	10.2	10.7	11.2	11.7	12.2	12.7	13.1	13.6	77
78	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.6	13.1	13.6	78
79	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.6	13.0	13.5	79
80	9.1	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	80
81	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	12.9	13.4	81
82	9.0	9.5	9.9	10.4	10.9	11.4	11.9	12.4	12.9	13.4	82
83	8.9	9.4	9.9	10.4	10.9	11.4	11.9	12.4	12.8	13.3	83
84	8.9	9.4	9.8	10.3	10.8	11.3	11.8	12.3	12.8	13.3	84
85	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.7	13.2	85
86	8.8	9.3	9.8	10.2	10.7	11.2	11.7	12.2	12.7	13.2	86
87	8.7	9.2	9.7	10.2	10.7	11.2	11.7	12.2	12.6	13.1	87
88	8.7	9.2	9.7	10.1	10.6	11.1	11.6	12.1	12.6	13.1	88
89	8.6	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.6	13.0	89
90	8.6	9.1	9.6	10.1	10.5	11.0	11.5	12.0	12.5	13.0	90
91	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.4	12.9	91
92	8.5	9.0	9.5	10.0	10.4	10.9	11.4	11.9	12.4	12.9	92
93	8.4	8.9	9.4	9.9	10.4	10.9	11.4	11.9	12.4	12.8	93
94	8.4	8.9	9.4	9.9	10.3	10.8	11.3	11.8	12.3	12.8	94
95	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.7	95
96	8.3	8.8	9.3	9.8	10.3	10.7	11.2	11.7	12.2	12.7	96
97	8.3	8.7	9.2	9.7	10.2	10.7	11.2	11.7	12.2	12.6	97
98	8.2	8.7	9.2	9.7	10.2	10.6	11.1	11.6	12.1	12.6	98
99	8.2	8.6	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.5	99
100	8.1	8.6	9.1	9.6	10.1	10.5	11.0	11.5	12.0	12.5	100

API GRAVITY = 10.0 TO 14.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	
100	8.1	8.6	9.1	9.6	10.1	10.5	11.0	11.5	12.0	12.5	100
101	8.1	8.6	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.4	101
102	8.0	8.5	9.0	9.5	10.0	10.5	10.9	11.4	11.9	12.4	102
103	8.0	8.5	8.9	9.4	9.9	10.4	10.9	11.4	11.9	12.3	103
104	7.9	8.4	8.9	9.4	9.9	10.4	10.8	11.3	11.8	12.3	104
105	7.9	8.4	8.9	9.3	9.8	10.3	10.8	11.3	11.8	12.2	105
106	7.8	8.3	8.8	9.3	9.8	10.3	10.7	11.2	11.7	12.2	106
107	7.8	8.3	8.8	9.2	9.7	10.2	10.7	11.2	11.7	12.1	107
108	7.7	8.2	8.7	9.2	9.7	10.2	10.6	11.1	11.6	12.1	108
109	7.7	8.2	8.7	9.1	9.6	10.1	10.6	11.1	11.6	12.0	109
110	7.7	8.1	8.6	9.1	9.6	10.1	10.5	11.0	11.5	12.0	110
111	7.6	8.1	8.6	9.1	9.5	10.0	10.5	11.0	11.5	11.9	111
112	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.9	11.4	11.9	112
113	7.5	8.0	8.5	9.0	9.4	9.9	10.4	10.9	11.4	11.8	113
114	7.5	7.9	8.4	8.9	9.4	9.9	10.4	10.8	11.3	11.8	114
115	7.4	7.9	8.4	8.9	9.3	9.8	10.3	10.8	11.3	11.7	115
116	7.4	7.9	8.3	8.8	9.3	9.8	10.3	10.7	11.2	11.7	116
117	7.3	7.8	8.3	8.8	9.2	9.7	10.2	10.7	11.2	11.6	117
118	7.3	7.8	8.2	8.7	9.2	9.7	10.2	10.6	11.1	11.6	118
119	7.2	7.7	8.2	8.7	9.2	9.6	10.1	10.6	11.1	11.6	119
120	7.2	7.7	8.1	8.6	9.1	9.6	10.1	10.5	11.0	11.5	120
121	7.1	7.6	8.1	8.6	9.1	9.5	10.0	10.5	11.0	11.5	121
122	7.1	7.6	8.1	8.5	9.0	9.5	10.0	10.4	10.9	11.4	122
123	7.0	7.5	8.0	8.5	9.0	9.4	9.9	10.4	10.9	11.4	123
124	7.0	7.5	8.0	8.4	8.9	9.4	9.9	10.3	10.8	11.3	124
125	7.0	7.4	7.9	8.4	8.9	9.3	9.8	10.3	10.8	11.3	125
126	6.9	7.4	7.9	8.3	8.8	9.3	9.8	10.3	10.7	11.2	126
127	6.9	7.3	7.8	8.3	8.8	9.3	9.7	10.2	10.7	11.2	127
128	6.8	7.3	7.8	8.3	8.7	9.2	9.7	10.2	10.6	11.1	128
129	6.8	7.3	7.7	8.2	8.7	9.2	9.6	10.1	10.6	11.1	129
130	6.7	7.2	7.7	8.2	8.6	9.1	9.6	10.1	10.5	11.0	130
131	6.7	7.2	7.6	8.1	8.6	9.1	9.5	10.0	10.5	11.0	131
132	6.6	7.1	7.6	8.1	8.5	9.0	9.5	10.0	10.4	10.9	132
133	6.6	7.1	7.5	8.0	8.5	9.0	9.4	9.9	10.4	10.9	133
134	6.5	7.0	7.5	8.0	8.4	8.9	9.4	9.9	10.3	10.8	134
135	6.5	7.0	7.4	7.9	8.4	8.9	9.3	9.8	10.3	10.8	135
136	6.5	6.9	7.4	7.9	8.3	8.8	9.3	9.8	10.2	10.7	136
137	6.4	6.9	7.4	7.8	8.3	8.8	9.3	9.7	10.2	10.7	137
138	6.4	6.8	7.3	7.8	8.3	8.7	9.2	9.7	10.2	10.6	138
139	6.3	6.8	7.3	7.7	8.2	8.7	9.2	9.6	10.1	10.6	139
140	6.3	6.7	7.2	7.7	8.2	8.6	9.1	9.6	10.1	10.5	140
141	6.2	6.7	7.2	7.6	8.1	8.6	9.1	9.5	10.0	10.5	141
142	6.2	6.6	7.1	7.6	8.1	8.5	9.0	9.5	10.0	10.4	142
143	6.1	6.6	7.1	7.5	8.0	8.5	9.0	9.4	9.9	10.4	143
144	6.1	6.6	7.0	7.5	8.0	8.4	8.9	9.4	9.9	10.3	144
145	6.0	6.5	7.0	7.5	7.9	8.4	8.9	9.3	9.8	10.3	145
146	6.0	6.5	6.9	7.4	7.9	8.3	8.8	9.3	9.8	10.2	146
147	6.0	6.4	6.9	7.4	7.8	8.3	8.8	9.2	9.7	10.2	147
148	5.9	6.4	6.8	7.3	7.8	8.3	8.7	9.2	9.7	10.1	148
149	5.9	6.3	6.8	7.3	7.7	8.2	8.7	9.1	9.6	10.1	149
150	5.8	6.3	6.8	7.2	7.7	8.2	8.6	9.1	9.6	10.0	150

API GRAVITY = 10.0 TO 14.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	
150	5.8	6.3	6.8	7.2	7.7	8.2	8.6	9.1	9.6	10.0	150
151	5.8	6.2	6.7	7.2	7.6	8.1	8.6	9.1	9.5	10.0	151
152	5.7	6.2	6.7	7.1	7.6	8.1	8.5	9.0	9.5	9.9	152
153	5.7	6.1	6.6	7.1	7.6	8.0	8.5	9.0	9.4	9.9	153
154	5.6	6.1	6.6	7.0	7.5	8.0	8.4	8.9	9.4	9.8	154
155	5.6	6.1	6.5	7.0	7.5	7.9	8.4	8.9	9.3	9.8	155
156	5.5	6.0	6.5	6.9	7.4	7.9	8.3	8.8	9.3	9.8	156
157	5.5	6.0	6.4	6.9	7.4	7.8	8.3	8.8	9.2	9.7	157
158	5.5	5.9	6.4	6.9	7.3	7.8	8.3	8.7	9.2	9.7	158
159	5.4	5.9	6.3	6.8	7.3	7.7	8.2	8.7	9.1	9.6	159
160	5.4	5.8	6.3	6.8	7.2	7.7	8.2	8.6	9.1	9.6	160
161	5.3	5.8	6.2	6.7	7.2	7.6	8.1	8.6	9.0	9.5	161
162	5.3	5.7	6.2	6.7	7.1	7.6	8.1	8.5	9.0	9.5	162
163	5.2	5.7	6.2	6.6	7.1	7.6	8.0	8.5	8.9	9.4	163
164	5.2	5.6	6.1	6.6	7.0	7.5	8.0	8.4	8.9	9.4	164
165	5.1	5.6	6.1	6.5	7.0	7.5	7.9	8.4	8.9	9.3	165
166	5.1	5.6	6.0	6.5	6.9	7.4	7.9	8.3	8.8	9.3	166
167	5.0	5.5	6.0	6.4	6.9	7.4	7.8	8.3	8.8	9.2	167
168	5.0	5.5	5.9	6.4	6.9	7.3	7.8	8.2	8.7	9.2	168
169	5.0	5.4	5.9	6.3	6.8	7.3	7.7	8.2	8.7	9.1	169
170	4.9	5.4	5.8	6.3	6.8	7.2	7.7	8.2	8.6	9.1	170
171	4.9	5.3	5.8	6.3	6.7	7.2	7.6	8.1	8.6	9.0	171
172	4.8	5.3	5.7	6.2	6.7	7.1	7.6	8.1	8.5	9.0	172
173	4.8	5.2	5.7	6.2	6.6	7.1	7.5	8.0	8.5	8.9	173
174	4.7	5.2	5.7	6.1	6.6	7.0	7.5	8.0	8.4	8.9	174
175	4.7	5.1	5.6	6.1	6.5	7.0	7.5	7.9	8.4	8.8	175
176	4.6	5.1	5.6	6.0	6.5	6.9	7.4	7.9	8.3	8.8	176
177	4.6	5.1	5.5	6.0	6.4	6.9	7.4	7.8	8.3	8.7	177
178	4.6	5.0	5.5	5.9	6.4	6.9	7.3	7.8	8.2	8.7	178
179	4.5	5.0	5.4	5.9	6.3	6.8	7.3	7.7	8.2	8.7	179
180	4.5	4.9	5.4	5.8	6.3	6.8	7.2	7.7	8.1	8.6	180
181	4.4	4.9	5.3	5.8	6.3	6.7	7.2	7.6	8.1	8.6	181
182	4.4	4.8	5.3	5.8	6.2	6.7	7.1	7.6	8.0	8.5	182
183	4.3	4.8	5.2	5.7	6.2	6.6	7.1	7.5	8.0	8.5	183
184	4.3	4.7	5.2	5.7	6.1	6.6	7.0	7.5	8.0	8.4	184
185	4.2	4.7	5.2	5.6	6.1	6.5	7.0	7.4	7.9	8.4	185
186	4.2	4.7	5.1	5.6	6.0	6.5	6.9	7.4	7.9	8.3	186
187	4.1	4.6	5.1	5.5	6.0	6.4	6.9	7.4	7.8	8.3	187
188	4.1	4.6	5.0	5.5	5.9	6.4	6.9	7.3	7.8	8.2	188
189	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.3	7.7	8.2	189
190	4.0	4.5	4.9	5.4	5.8	6.3	6.8	7.2	7.7	8.1	190
191	4.0	4.4	4.9	5.3	5.8	6.3	6.7	7.2	7.6	8.1	191
192	3.9	4.4	4.8	5.3	5.8	6.2	6.7	7.1	7.6	8.0	192
193	3.9	4.3	4.8	5.3	5.7	6.2	6.6	7.1	7.5	8.0	193
194	3.8	4.3	4.8	5.2	5.7	6.1	6.6	7.0	7.5	7.9	194
195	3.8	4.3	4.7	5.2	5.6	6.1	6.5	7.0	7.4	7.9	195
196	3.7	4.2	4.7	5.1	5.6	6.0	6.5	6.9	7.4	7.8	196
197	3.7	4.2	4.6	5.1	5.5	6.0	6.4	6.9	7.3	7.8	197
198	3.7	4.1	4.6	5.0	5.5	5.9	6.4	6.8	7.3	7.8	198
199	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.3	7.7	199
200	3.6	4.0	4.5	4.9	5.4	5.8	6.3	6.7	7.2	7.7	200

API GRAVITY = 10.0 TO 14.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	
200	3.6	4.0	4.5	4.9	5.4	5.8	6.3	6.7	7.2	7.7	200
201	3.5	4.0	4.4	4.9	5.3	5.8	6.2	6.7	7.2	7.6	201
202	3.5	3.9	4.4	4.8	5.3	5.8	6.2	6.7	7.1	7.6	202
203	3.4	3.9	4.3	4.8	5.3	5.7	6.2	6.6	7.1	7.5	203
204	3.4	3.9	4.3	4.8	5.2	5.7	6.1	6.6	7.0	7.5	204
205	3.4	3.8	4.3	4.7	5.2	5.6	6.1	6.5	7.0	7.4	205
206	3.3	3.8	4.2	4.7	5.1	5.6	6.0	6.5	6.9	7.4	206
207	3.3	3.7	4.2	4.6	5.1	5.5	6.0	6.4	6.9	7.3	207
208	3.2	3.7	4.1	4.6	5.0	5.5	5.9	6.4	6.8	7.3	208
209	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.2	209
210	3.1	3.6	4.0	4.5	4.9	5.4	5.8	6.3	6.7	7.2	210
211	3.1	3.5	4.0	4.4	4.9	5.3	5.8	6.2	6.7	7.1	211
212	3.0	3.5	3.9	4.4	4.8	5.3	5.7	6.2	6.6	7.1	212
213	3.0	3.5	3.9	4.4	4.8	5.3	5.7	6.2	6.6	7.0	213
214	3.0	3.4	3.9	4.3	4.8	5.2	5.7	6.1	6.6	7.0	214
215	2.9	3.4	3.8	4.3	4.7	5.2	5.6	6.1	6.5	7.0	215
216	2.9	3.3	3.8	4.2	4.7	5.1	5.6	6.0	6.5	6.9	216
217	2.8	3.3	3.7	4.2	4.6	5.1	5.5	6.0	6.4	6.9	217
218	2.8	3.2	3.7	4.1	4.6	5.0	5.5	5.9	6.4	6.8	218
219	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	219
220	2.7	3.1	3.6	4.0	4.5	4.9	5.4	5.8	6.3	6.7	220
221	2.7	3.1	3.5	4.0	4.4	4.9	5.3	5.8	6.2	6.7	221
222	2.6	3.1	3.5	3.9	4.4	4.8	5.3	5.7	6.2	6.6	222
223	2.6	3.0	3.5	3.9	4.4	4.8	5.2	5.7	6.1	6.6	223
224	2.5	3.0	3.4	3.9	4.3	4.8	5.2	5.6	6.1	6.5	224
225	2.5	2.9	3.4	3.8	4.3	4.7	5.2	5.6	6.0	6.5	225
226	2.4	2.9	3.3	3.8	4.2	4.7	5.1	5.6	6.0	6.4	226
227	2.4	2.8	3.3	3.7	4.2	4.6	5.1	5.5	6.0	6.4	227
228	2.3	2.8	3.2	3.7	4.1	4.6	5.0	5.5	5.9	6.4	228
229	2.3	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	229
230	2.3	2.7	3.1	3.6	4.0	4.5	4.9	5.4	5.8	6.3	230
231	2.2	2.7	3.1	3.5	4.0	4.4	4.9	5.3	5.8	6.2	231
232	2.2	2.6	3.1	3.5	3.9	4.4	4.8	5.3	5.7	6.2	232
233	2.1	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.7	6.1	233
234	2.1	2.5	3.0	3.4	3.9	4.3	4.7	5.2	5.6	6.1	234
235	2.0	2.5	2.9	3.4	3.8	4.3	4.7	5.1	5.6	6.0	235
236	2.0	2.4	2.9	3.3	3.8	4.2	4.7	5.1	5.5	6.0	236
237	2.0	2.4	2.8	3.3	3.7	4.2	4.6	5.1	5.5	5.9	237
238	1.9	2.4	2.8	3.2	3.7	4.1	4.6	5.0	5.4	5.9	238
239	1.9	2.3	2.8	3.2	3.6	4.1	4.5	5.0	5.4	5.8	239
240	1.8	2.3	2.7	3.2	3.6	4.0	4.5	4.9	5.4	5.8	240
241	1.8	2.2	2.7	3.1	3.5	4.0	4.4	4.9	5.3	5.8	241
242	1.7	2.2	2.6	3.1	3.5	3.9	4.4	4.8	5.3	5.7	242
243	1.7	2.1	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.7	243
244	1.7	2.1	2.5	3.0	3.4	3.9	4.3	4.7	5.2	5.6	244
245	1.6	2.1	2.5	2.9	3.4	3.8	4.3	4.7	5.1	5.6	245
246	1.6	2.0	2.4	2.9	3.3	3.8	4.2	4.6	5.1	5.5	246
247	1.5	2.0	2.4	2.8	3.3	3.7	4.2	4.6	5.0	5.5	247
248	1.5	1.9	2.4	2.8	3.2	3.7	4.1	4.6	5.0	5.4	248
249	1.4	1.9	2.3	2.8	3.2	3.6	4.1	4.5	4.9	5.4	249
250	1.4	1.8	2.3	2.7	3.2	3.6	4.0	4.5	4.9	5.3	250

API GRAVITY = 10.0 TO 14.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	
250	1.4	1.8	2.3	2.7	3.2	3.6	4.0	4.5	4.9	5.3	250
251	1.3	1.8	2.2	2.7	3.1	3.5	4.0	4.4	4.9	5.3	251
252	1.3	1.7	2.2	2.6	3.1	3.5	3.9	4.4	4.8	5.3	252
253	1.3	1.7	2.1	2.6	3.0	3.5	3.9	4.3	4.8	5.2	253
254	1.2	1.7	2.1	2.5	3.0	3.4	3.8	4.3	4.7	5.2	254
255	1.2	1.6	2.1	2.5	2.9	3.4	3.8	4.2	4.7	5.1	255
256	1.1	1.6	2.0	2.4	2.9	3.3	3.8	4.2	4.6	5.1	256
257	1.1	1.5	2.0	2.4	2.8	3.3	3.7	4.2	4.6	5.0	257
258	1.1	1.5	1.9	2.4	2.8	3.2	3.7	4.1	4.5	5.0	258
259	1.0	1.4	1.9	2.3	2.8	3.2	3.6	4.1	4.5	4.9	259
260	1.0	1.4	1.8	2.3	2.7	3.1	3.6	4.0	4.5	4.9	260
261	0.9	1.4	1.8	2.2	2.7	3.1	3.5	4.0	4.4	4.8	261
262	0.9	1.3	1.8	2.2	2.6	3.1	3.5	3.9	4.4	4.8	262
263	0.8	1.3	1.7	2.1	2.6	3.0	3.5	3.9	4.3	4.7	263
264	0.8	1.2	1.7	2.1	2.5	3.0	3.4	3.8	4.3	4.7	264
265	0.8	1.2	1.6	2.1	2.5	2.9	3.4	3.8	4.2	4.7	265
266	0.7	1.1	1.6	2.0	2.4	2.9	3.3	3.7	4.2	4.6	266
267	0.7	1.1	1.5	2.0	2.4	2.8	3.3	3.7	4.1	4.6	267
268	0.6	1.1	1.5	1.9	2.4	2.8	3.2	3.7	4.1	4.5	268
269	0.6	1.0	1.5	1.9	2.3	2.8	3.2	3.6	4.0	4.5	269
270	0.5	1.0	1.4	1.8	2.3	2.7	3.1	3.6	4.0	4.4	270
271	0.5	0.9	1.4	1.8	2.2	2.7	3.1	3.5	4.0	4.4	271
272	0.5	0.9	1.3	1.8	2.2	2.6	3.0	3.5	3.9	4.3	272
273	0.4	0.8	1.3	1.7	2.1	2.6	3.0	3.4	3.9	4.3	273
274	0.4	0.8	1.2	1.7	2.1	2.5	3.0	3.4	3.8	4.3	274
275	0.3	0.8	1.2	1.6	2.1	2.5	2.9	3.3	3.8	4.2	275
276	0.3	0.7	1.1	1.6	2.0	2.4	2.9	3.3	3.7	4.2	276
277	0.2	0.7	1.1	1.5	2.0	2.4	2.8	3.3	3.7	4.1	277
278	0.2	0.6	1.1	1.5	1.9	2.4	2.8	3.2	3.6	4.1	278
279	0.2	0.6	1.0	1.5	1.9	2.3	2.7	3.2	3.6	4.0	279
280	0.1	0.5	1.0	1.4	1.8	2.3	2.7	3.1	3.6	4.0	280
281	0.1	0.5	0.9	1.4	1.8	2.2	2.7	3.1	3.5	3.9	281
282	0.0	0.5	0.9	1.3	1.8	2.2	2.6	3.0	3.5	3.9	282
283	0.0	0.4	0.8	1.3	1.7	2.1	2.6	3.0	3.4	3.8	283
284	-0.1	0.4	0.8	1.2	1.7	2.1	2.5	2.9	3.4	3.8	284
285	-0.1	0.3	0.8	1.2	1.6	2.0	2.5	2.9	3.3	3.8	285
286	-0.1	0.3	0.7	1.2	1.6	2.0	2.4	2.9	3.3	3.7	286
287	-0.2	0.3	0.7	1.1	1.5	2.0	2.4	2.8	3.2	3.7	287
288	-0.2	0.2	0.6	1.1	1.5	1.9	2.3	2.8	3.2	3.6	288
289	-0.3	0.2	0.6	1.0	1.4	1.9	2.3	2.7	3.2	3.6	289
290	-0.3	0.1	0.6	1.0	1.4	1.8	2.3	2.7	3.1	3.5	290
291	-0.4	0.1	0.5	0.9	1.4	1.8	2.2	2.6	3.1	3.5	291
292	-0.4	0.0	0.5	0.9	1.3	1.7	2.2	2.6	3.0	3.4	292
293	-0.4	0.0	0.4	0.8	1.3	1.7	2.1	2.6	3.0	3.4	293
294	-0.5	-0.1	0.4	0.8	1.2	1.7	2.1	2.5	2.9	3.4	294
295	-0.5	-0.1	0.3	0.8	1.2	1.6	2.0	2.5	2.9	3.3	295
296	-0.6	-0.1	0.3	0.7	1.1	1.6	2.0	2.4	2.8	3.3	296
297	-0.6	-0.2	0.3	0.7	1.1	1.5	2.0	2.4	2.8	3.2	297
298	-0.7	-0.2	0.2	0.6	1.1	1.5	1.9	2.3	2.8	3.2	298
299	-0.7	-0.3	0.2	0.6	1.0	1.4	1.9	2.3	2.7	3.1	299
300	-0.7	-0.3	0.1	0.6	1.0	1.4	1.8	2.2	2.7	3.1	300

API GRAVITY = 10.0 TO 14.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	
0	18.1	18.6	19.2	19.7	20.2	20.7	21.2	21.8	22.3	22.8	0
1	18.1	18.6	19.1	19.6	20.1	20.7	21.2	21.7	22.2	22.8	1
2	18.0	18.5	19.0	19.6	20.1	20.6	21.1	21.7	22.2	22.7	2
3	18.0	18.5	19.0	19.5	20.0	20.6	21.1	21.6	22.1	22.6	3
4	17.9	18.4	18.9	19.5	20.0	20.5	21.0	21.5	22.1	22.6	4
5	17.8	18.4	18.9	19.4	19.9	20.4	21.0	21.5	22.0	22.5	5
6	17.8	18.3	18.8	19.4	19.9	20.4	20.9	21.4	22.0	22.5	6
7	17.7	18.3	18.8	19.3	19.8	20.3	20.9	21.4	21.9	22.4	7
8	17.7	18.2	18.7	19.2	19.8	20.3	20.8	21.3	21.8	22.4	8
9	17.6	18.2	18.7	19.2	19.7	20.2	20.8	21.3	21.8	22.3	9
10	17.6	18.1	18.6	19.1	19.7	20.2	20.7	21.2	21.7	22.3	10
11	17.5	18.1	18.6	19.1	19.6	20.1	20.6	21.2	21.7	22.2	11
12	17.5	18.0	18.5	19.0	19.6	20.1	20.6	21.1	21.6	22.1	12
13	17.4	17.9	18.5	19.0	19.5	20.0	20.5	21.0	21.6	22.1	13
14	17.4	17.9	18.4	18.9	19.4	20.0	20.5	21.0	21.5	22.0	14
15	17.3	17.8	18.4	18.9	19.4	19.9	20.4	20.9	21.5	22.0	15
16	17.3	17.8	18.3	18.8	19.3	19.9	20.4	20.9	21.4	21.9	16
17	17.2	17.7	18.3	18.8	19.3	19.8	20.3	20.8	21.3	21.9	17
18	17.2	17.7	18.2	18.7	19.2	19.7	20.3	20.8	21.3	21.8	18
19	17.1	17.6	18.1	18.7	19.2	19.7	20.2	20.7	21.2	21.8	19
20	17.1	17.6	18.1	18.6	19.1	19.6	20.2	20.7	21.2	21.7	20
21	17.0	17.5	18.0	18.6	19.1	19.6	20.1	20.6	21.1	21.6	21
22	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.6	21.1	21.6	22
23	16.9	17.4	17.9	18.4	19.0	19.5	20.0	20.5	21.0	21.5	23
24	16.9	17.4	17.9	18.4	18.9	19.4	19.9	20.4	21.0	21.5	24
25	16.8	17.3	17.8	18.3	18.9	19.4	19.9	20.4	20.9	21.4	25
26	16.8	17.3	17.8	18.3	18.8	19.3	19.8	20.3	20.9	21.4	26
27	16.7	17.2	17.7	18.2	18.7	19.3	19.8	20.3	20.8	21.3	27
28	16.6	17.2	17.7	18.2	18.7	19.2	19.7	20.2	20.7	21.3	28
29	16.6	17.1	17.6	18.1	18.6	19.2	19.7	20.2	20.7	21.2	29
30	16.5	17.1	17.6	18.1	18.6	19.1	19.6	20.1	20.6	21.1	30
31	16.5	17.0	17.5	18.0	18.5	19.0	19.6	20.1	20.6	21.1	31
32	16.4	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	32
33	16.4	16.9	17.4	17.9	18.4	18.9	19.4	20.0	20.5	21.0	33
34	16.3	16.8	17.4	17.9	18.4	18.9	19.4	19.9	20.4	20.9	34
35	16.3	16.8	17.3	17.8	18.3	18.8	19.3	19.8	20.4	20.9	35
36	16.2	16.7	17.3	17.8	18.3	18.8	19.3	19.8	20.3	20.8	36
37	16.2	16.7	17.2	17.7	18.2	18.7	19.2	19.7	20.2	20.8	37
38	16.1	16.6	17.1	17.7	18.2	18.7	19.2	19.7	20.2	20.7	38
39	16.1	16.6	17.1	17.6	18.1	18.6	19.1	19.6	20.1	20.6	39
40	16.0	16.5	17.0	17.5	18.1	18.6	19.1	19.6	20.1	20.6	40
41	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	41
42	15.9	16.4	16.9	17.4	17.9	18.5	19.0	19.5	20.0	20.5	42
43	15.9	16.4	16.9	17.4	17.9	18.4	18.9	19.4	19.9	20.4	43
44	15.8	16.3	16.8	17.3	17.8	18.3	18.9	19.4	19.9	20.4	44
45	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.3	19.8	20.3	45
46	15.7	16.2	16.7	17.2	17.7	18.2	18.7	19.3	19.8	20.3	46
47	15.7	16.2	16.7	17.2	17.7	18.2	18.7	19.2	19.7	20.2	47
48	15.6	16.1	16.6	17.1	17.6	18.1	18.6	19.1	19.7	20.2	48
49	15.6	16.1	16.6	17.1	17.6	18.1	18.6	19.1	19.6	20.1	49
50	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	50

API GRAVITY = 15.0 TO 19.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	
50	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	50
51	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	51
52	15.4	15.9	16.4	16.9	17.4	17.9	18.4	18.9	19.4	19.9	52
53	15.4	15.9	16.4	16.9	17.4	17.9	18.4	18.9	19.4	19.9	53
54	15.3	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.3	19.8	54
55	15.3	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.3	19.8	55
56	15.2	15.7	16.2	16.7	17.2	17.7	18.2	18.7	19.2	19.7	56
57	15.2	15.7	16.2	16.7	17.2	17.7	18.2	18.7	19.2	19.7	57
58	15.1	15.6	16.1	16.6	17.1	17.6	18.1	18.6	19.1	19.6	58
59	15.1	15.6	16.1	16.6	17.1	17.6	18.1	18.6	19.1	19.6	59
60	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	60
61	14.9	15.4	15.9	16.4	16.9	17.4	17.9	18.4	18.9	19.4	61
62	14.9	15.4	15.9	16.4	16.9	17.4	17.9	18.4	18.9	19.4	62
63	14.8	15.3	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.3	63
64	14.8	15.3	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.3	64
65	14.7	15.2	15.7	16.2	16.7	17.2	17.7	18.2	18.7	19.2	65
66	14.7	15.2	15.7	16.2	16.7	17.2	17.7	18.2	18.7	19.2	66
67	14.6	15.1	15.6	16.1	16.6	17.1	17.6	18.1	18.6	19.1	67
68	14.6	15.1	15.6	16.1	16.6	17.1	17.6	18.1	18.6	19.1	68
69	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	69
70	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	70
71	14.4	14.9	15.4	15.9	16.4	16.9	17.4	17.9	18.4	18.9	71
72	14.4	14.9	15.4	15.9	16.4	16.9	17.4	17.9	18.4	18.8	72
73	14.3	14.8	15.3	15.8	16.3	16.8	17.3	17.8	18.3	18.8	73
74	14.3	14.8	15.3	15.8	16.3	16.8	17.3	17.8	18.2	18.7	74
75	14.2	14.7	15.2	15.7	16.2	16.7	17.2	17.7	18.2	18.7	75
76	14.2	14.7	15.2	15.7	16.2	16.7	17.2	17.6	18.1	18.6	76
77	14.1	14.6	15.1	15.6	16.1	16.6	17.1	17.6	18.1	18.6	77
78	14.1	14.6	15.1	15.6	16.1	16.6	17.0	17.5	18.0	18.5	78
79	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	79
80	14.0	14.5	15.0	15.5	16.0	16.4	16.9	17.4	17.9	18.4	80
81	13.9	14.4	14.9	15.4	15.9	16.4	16.9	17.4	17.9	18.4	81
82	13.9	14.4	14.9	15.4	15.9	16.3	16.8	17.3	17.8	18.3	82
83	13.8	14.3	14.8	15.3	15.8	16.3	16.8	17.3	17.8	18.3	83
84	13.8	14.3	14.8	15.3	15.7	16.2	16.7	17.2	17.7	18.2	84
85	13.7	14.2	14.7	15.2	15.7	16.2	16.7	17.2	17.7	18.2	85
86	13.7	14.2	14.7	15.2	15.6	16.1	16.6	17.1	17.6	18.1	86
87	13.6	14.1	14.6	15.1	15.6	16.1	16.6	17.1	17.6	18.0	87
88	13.6	14.1	14.6	15.0	15.5	16.0	16.5	17.0	17.5	18.0	88
89	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.4	17.9	89
90	13.5	14.0	14.5	14.9	15.4	15.9	16.4	16.9	17.4	17.9	90
91	13.4	13.9	14.4	14.9	15.4	15.9	16.4	16.9	17.3	17.8	91
92	13.4	13.9	14.4	14.8	15.3	15.8	16.3	16.8	17.3	17.8	92
93	13.3	13.8	14.3	14.8	15.3	15.8	16.3	16.7	17.2	17.7	93
94	13.3	13.8	14.3	14.7	15.2	15.7	16.2	16.7	17.2	17.7	94
95	13.2	13.7	14.2	14.7	15.2	15.7	16.2	16.6	17.1	17.6	95
96	13.2	13.7	14.2	14.6	15.1	15.6	16.1	16.6	17.1	17.6	96
97	13.1	13.6	14.1	14.6	15.1	15.6	16.0	16.5	17.0	17.5	97
98	13.1	13.6	14.1	14.5	15.0	15.5	16.0	16.5	17.0	17.5	98
99	13.0	13.5	14.0	14.5	15.0	15.5	15.9	16.4	16.9	17.4	99
100	13.0	13.5	14.0	14.4	14.9	15.4	15.9	16.4	16.9	17.4	100

API GRAVITY = 15.0 TO 19.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE										TEMP. F
	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	
CORRESPONDING API GRAVITY AT 60 F											
100	13.0	13.5	14.0	14.4	14.9	15.4	15.9	16.4	16.9	17.4	100
101	12.9	13.4	13.9	14.4	14.9	15.4	15.8	16.3	16.8	17.3	101
102	12.9	13.4	13.8	14.3	14.8	15.3	15.8	16.3	16.8	17.2	102
103	12.8	13.3	13.8	14.3	14.8	15.3	15.7	16.2	16.7	17.2	103
104	12.8	13.3	13.7	14.2	14.7	15.2	15.7	16.2	16.7	17.1	104
105	12.7	13.2	13.7	14.2	14.7	15.1	15.6	16.1	16.6	17.1	105
106	12.7	13.2	13.6	14.1	14.6	15.1	15.6	16.1	16.5	17.0	106
107	12.6	13.1	13.6	14.1	14.6	15.0	15.5	16.0	16.5	17.0	107
108	12.6	13.1	13.5	14.0	14.5	15.0	15.5	16.0	16.4	16.9	108
109	12.5	13.0	13.5	14.0	14.5	14.9	15.4	15.9	16.4	16.9	109
110	12.5	13.0	13.4	13.9	14.4	14.9	15.4	15.9	16.3	16.8	110
111	12.4	12.9	13.4	13.9	14.4	14.8	15.3	15.8	16.3	16.8	111
112	12.4	12.9	13.3	13.8	14.3	14.8	15.3	15.8	16.2	16.7	112
113	12.3	12.8	13.3	13.8	14.3	14.7	15.2	15.7	16.2	16.7	113
114	12.3	12.8	13.2	13.7	14.2	14.7	15.2	15.6	16.1	16.6	114
115	12.2	12.7	13.2	13.7	14.2	14.6	15.1	15.6	16.1	16.6	115
116	12.2	12.7	13.1	13.6	14.1	14.6	15.1	15.5	16.0	16.5	116
117	12.1	12.6	13.1	13.6	14.1	14.5	15.0	15.5	16.0	16.4	117
118	12.1	12.6	13.0	13.5	14.0	14.5	15.0	15.4	15.9	16.4	118
119	12.0	12.5	13.0	13.5	13.9	14.4	14.9	15.4	15.9	16.3	119
120	12.0	12.5	12.9	13.4	13.9	14.4	14.9	15.3	15.8	16.3	120
121	11.9	12.4	12.9	13.4	13.8	14.3	14.8	15.3	15.8	16.2	121
122	11.9	12.4	12.8	13.3	13.8	14.3	14.8	15.2	15.7	16.2	122
123	11.8	12.3	12.8	13.3	13.7	14.2	14.7	15.2	15.7	16.1	123
124	11.8	12.3	12.7	13.2	13.7	14.2	14.7	15.1	15.6	16.1	124
125	11.7	12.2	12.7	13.2	13.6	14.1	14.6	15.1	15.6	16.0	125
126	11.7	12.2	12.6	13.1	13.6	14.1	14.5	15.0	15.5	16.0	126
127	11.6	12.1	12.6	13.1	13.5	14.0	14.5	15.0	15.4	15.9	127
128	11.6	12.1	12.5	13.0	13.5	14.0	14.4	14.9	15.4	15.9	128
129	11.5	12.0	12.5	13.0	13.4	13.9	14.4	14.9	15.3	15.8	129
130	11.5	12.0	12.4	12.9	13.4	13.9	14.3	14.8	15.3	15.8	130
131	11.4	11.9	12.4	12.9	13.3	13.8	14.3	14.8	15.2	15.7	131
132	11.4	11.9	12.3	12.8	13.3	13.8	14.2	14.7	15.2	15.7	132
133	11.3	11.8	12.3	12.8	13.2	13.7	14.2	14.7	15.1	15.6	133
134	11.3	11.8	12.2	12.7	13.2	13.7	14.1	14.6	15.1	15.6	134
135	11.2	11.7	12.2	12.7	13.1	13.6	14.1	14.6	15.0	15.5	135
136	11.2	11.7	12.1	12.6	13.1	13.6	14.0	14.5	15.0	15.5	136
137	11.1	11.6	12.1	12.6	13.0	13.5	14.0	14.5	14.9	15.4	137
138	11.1	11.6	12.0	12.5	13.0	13.5	13.9	14.4	14.9	15.4	138
139	11.0	11.5	12.0	12.5	12.9	13.4	13.9	14.4	14.8	15.3	139
140	11.0	11.5	11.9	12.4	12.9	13.4	13.8	14.3	14.8	15.2	140
141	10.9	11.4	11.9	12.4	12.8	13.3	13.8	14.3	14.7	15.2	141
142	10.9	11.4	11.8	12.3	12.8	13.3	13.7	14.2	14.7	15.1	142
143	10.9	11.3	11.8	12.3	12.7	13.2	13.7	14.1	14.6	15.1	143
144	10.8	11.3	11.7	12.2	12.7	13.2	13.6	14.1	14.6	15.0	144
145	10.8	11.2	11.7	12.2	12.6	13.1	13.6	14.0	14.5	15.0	145
146	10.7	11.2	11.6	12.1	12.6	13.1	13.5	14.0	14.5	14.9	146
147	10.7	11.1	11.6	12.1	12.5	13.0	13.5	13.9	14.4	14.9	147
148	10.6	11.1	11.5	12.0	12.5	13.0	13.4	13.9	14.4	14.8	148
149	10.6	11.0	11.5	12.0	12.4	12.9	13.4	13.8	14.3	14.8	149
150	10.5	11.0	11.4	11.9	12.4	12.9	13.3	13.8	14.3	14.7	150

API GRAVITY = 15.0 TO 19.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	
150	10.5	11.0	11.4	11.9	12.4	12.9	13.3	13.8	14.3	14.7	150
151	10.5	10.9	11.4	11.9	12.3	12.8	13.3	13.7	14.2	14.7	151
152	10.4	10.9	11.4	11.8	12.3	12.8	13.2	13.7	14.2	14.6	152
153	10.4	10.8	11.3	11.8	12.2	12.7	13.2	13.6	14.1	14.6	153
154	10.3	10.8	11.3	11.7	12.2	12.7	13.1	13.6	14.1	14.5	154
155	10.3	10.7	11.2	11.7	12.1	12.6	13.1	13.5	14.0	14.5	155
156	10.2	10.7	11.2	11.6	12.1	12.6	13.0	13.5	14.0	14.4	156
157	10.2	10.6	11.1	11.6	12.0	12.5	13.0	13.4	13.9	14.4	157
158	10.1	10.6	11.1	11.5	12.0	12.5	12.9	13.4	13.9	14.3	158
159	10.1	10.5	11.0	11.5	11.9	12.4	12.9	13.3	13.8	14.3	159
160	10.0	10.5	11.0	11.4	11.9	12.4	12.8	13.3	13.7	14.2	160
161	10.0	10.4	10.9	11.4	11.8	12.3	12.8	13.2	13.7	14.2	161
162	9.9	10.4	10.9	11.3	11.8	12.3	12.7	13.2	13.6	14.1	162
163	9.9	10.3	10.8	11.3	11.7	12.2	12.7	13.1	13.6	14.1	163
164	9.8	10.3	10.8	11.2	11.7	12.2	12.6	13.1	13.5	14.0	164
165	9.8	10.2	10.7	11.2	11.6	12.1	12.6	13.0	13.5	14.0	165
166	9.7	10.2	10.7	11.1	11.6	12.1	12.5	13.0	13.4	13.9	166
167	9.7	10.1	10.6	11.1	11.5	12.0	12.5	12.9	13.4	13.9	167
168	9.6	10.1	10.6	11.0	11.5	12.0	12.4	12.9	13.3	13.8	168
169	9.6	10.1	10.5	11.0	11.4	11.9	12.4	12.8	13.3	13.7	169
170	9.5	10.0	10.5	10.9	11.4	11.9	12.3	12.8	13.2	13.7	170
171	9.5	10.0	10.4	10.9	11.3	11.8	12.3	12.7	13.2	13.7	171
172	9.4	9.9	10.4	10.8	11.3	11.8	12.2	12.7	13.1	13.6	172
173	9.4	9.9	10.3	10.8	11.2	11.7	12.2	12.6	13.1	13.5	173
174	9.3	9.8	10.3	10.7	11.2	11.7	12.1	12.6	13.0	13.5	174
175	9.3	9.8	10.2	10.7	11.1	11.6	12.1	12.5	13.0	13.4	175
176	9.3	9.7	10.2	10.6	11.1	11.6	12.0	12.5	12.9	13.4	176
177	9.2	9.7	10.1	10.6	11.0	11.5	12.0	12.4	12.9	13.3	177
178	9.2	9.6	10.1	10.5	11.0	11.5	11.9	12.4	12.8	13.3	178
179	9.1	9.6	10.0	10.5	10.9	11.4	11.9	12.3	12.8	13.2	179
180	9.1	9.5	10.0	10.4	10.9	11.4	11.8	12.3	12.7	13.2	180
181	9.0	9.5	9.9	10.4	10.8	11.3	11.8	12.2	12.7	13.1	181
182	9.0	9.4	9.9	10.3	10.8	11.3	11.7	12.2	12.6	13.1	182
183	8.9	9.4	9.8	10.3	10.8	11.2	11.7	12.1	12.6	13.0	183
184	8.9	9.3	9.8	10.2	10.7	11.2	11.6	12.1	12.5	13.0	184
185	8.8	9.3	9.7	10.2	10.7	11.1	11.6	12.0	12.5	12.9	185
186	8.8	9.2	9.7	10.1	10.6	11.1	11.5	12.0	12.4	12.9	186
187	8.7	9.2	9.6	10.1	10.6	11.0	11.5	11.9	12.4	12.8	187
188	8.7	9.1	9.6	10.0	10.5	11.0	11.4	11.9	12.3	12.8	188
189	8.6	9.1	9.5	10.0	10.5	10.9	11.4	11.8	12.3	12.7	189
190	8.6	9.0	9.5	10.0	10.4	10.9	11.3	11.8	12.2	12.7	190
191	8.5	9.0	9.4	9.9	10.4	10.8	11.3	11.7	12.2	12.6	191
192	8.5	8.9	9.4	9.9	10.3	10.8	11.2	11.7	12.1	12.6	192
193	8.4	8.9	9.4	9.8	10.3	10.7	11.2	11.6	12.1	12.5	193
194	8.4	8.8	9.3	9.8	10.2	10.7	11.1	11.6	12.0	12.5	194
195	8.3	8.8	9.3	9.7	10.2	10.6	11.1	11.5	12.0	12.4	195
196	8.3	8.8	9.2	9.7	10.1	10.6	11.0	11.5	11.9	12.4	196
197	8.3	8.7	9.2	9.6	10.1	10.5	11.0	11.4	11.9	12.3	197
198	8.2	8.7	9.1	9.6	10.0	10.5	10.9	11.4	11.8	12.3	198
199	8.2	8.6	9.1	9.5	10.0	10.4	10.9	11.3	11.8	12.2	199
200	8.1	8.6	9.0	9.5	9.9	10.4	10.8	11.3	11.7	12.2	200

API GRAVITY = 15.0 TO 19.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	
200	8.1	8.6	9.0	9.5	9.9	10.4	10.8	11.3	11.7	12.2	200
201	8.1	8.5	9.0	9.4	9.9	10.3	10.8	11.2	11.7	12.1	201
202	8.0	8.5	8.9	9.4	9.8	10.3	10.7	11.2	11.6	12.1	202
203	8.0	8.4	8.9	9.3	9.8	10.2	10.7	11.1	11.6	12.0	203
204	7.9	8.4	8.8	9.3	9.7	10.2	10.6	11.1	11.5	12.0	204
205	7.9	8.3	8.8	9.2	9.7	10.1	10.6	11.0	11.5	11.9	205
206	7.8	8.3	8.7	9.2	9.6	10.1	10.5	11.0	11.4	11.9	206
207	7.8	8.2	8.7	9.1	9.6	10.0	10.5	10.9	11.4	11.8	207
208	7.7	8.2	8.6	9.1	9.5	10.0	10.4	10.9	11.3	11.8	208
209	7.7	8.1	8.6	9.0	9.5	9.9	10.4	10.8	11.3	11.7	209
210	7.6	8.1	8.5	9.0	9.4	9.9	10.3	10.8	11.2	11.7	210
211	7.6	8.0	8.5	8.9	9.4	9.8	10.3	10.7	11.2	11.6	211
212	7.5	8.0	8.4	8.9	9.3	9.8	10.2	10.7	11.1	11.6	212
213	7.5	7.9	8.4	8.8	9.3	9.7	10.2	10.6	11.1	11.5	213
214	7.5	7.9	8.3	8.8	9.2	9.7	10.1	10.6	11.0	11.5	214
215	7.4	7.9	8.3	8.7	9.2	9.6	10.1	10.5	11.0	11.4	215
216	7.4	7.8	8.3	8.7	9.1	9.6	10.0	10.5	10.9	11.4	216
217	7.3	7.8	8.2	8.7	9.1	9.5	10.0	10.4	10.9	11.3	217
218	7.3	7.7	8.2	8.6	9.1	9.5	9.9	10.4	10.8	11.3	218
219	7.2	7.7	8.1	8.6	9.0	9.4	9.9	10.3	10.8	11.2	219
220	7.2	7.6	8.1	8.5	9.0	9.4	9.8	10.3	10.7	11.2	220
221	7.1	7.6	8.0	8.5	8.9	9.4	9.8	10.2	10.7	11.1	221
222	7.1	7.5	8.0	8.4	8.9	9.3	9.8	10.2	10.6	11.1	222
223	7.0	7.5	7.9	8.4	8.8	9.3	9.7	10.1	10.6	11.0	223
224	7.0	7.4	7.9	8.3	8.8	9.2	9.7	10.1	10.5	11.0	224
225	6.9	7.4	7.8	8.3	8.7	9.2	9.6	10.0	10.5	10.9	225
226	6.9	7.3	7.8	8.2	8.7	9.1	9.6	10.0	10.4	10.9	226
227	6.8	7.3	7.7	8.2	8.6	9.1	9.5	9.9	10.4	10.8	227
228	6.8	7.2	7.7	8.1	8.6	9.0	9.5	9.9	10.3	10.8	228
229	6.7	7.2	7.6	8.1	8.5	9.0	9.4	9.9	10.3	10.7	229
230	6.7	7.1	7.6	8.0	8.5	8.9	9.4	9.8	10.2	10.7	230
231	6.7	7.1	7.5	8.0	8.4	8.9	9.3	9.8	10.2	10.6	231
232	6.6	7.1	7.5	7.9	8.4	8.8	9.3	9.7	10.1	10.6	232
233	6.6	7.0	7.5	7.9	8.3	8.8	9.2	9.7	10.1	10.5	233
234	6.5	7.0	7.4	7.8	8.3	8.7	9.2	9.6	10.1	10.5	234
235	6.5	6.9	7.4	7.8	8.2	8.7	9.1	9.6	10.0	10.4	235
236	6.4	6.9	7.3	7.7	8.2	8.6	9.1	9.5	10.0	10.4	236
237	6.4	6.8	7.3	7.7	8.1	8.6	9.0	9.5	9.9	10.3	237
238	6.3	6.8	7.2	7.7	8.1	8.5	9.0	9.4	9.9	10.3	238
239	6.3	6.7	7.2	7.6	8.0	8.5	8.9	9.4	9.8	10.2	239
240	6.2	6.7	7.1	7.6	8.0	8.4	8.9	9.3	9.8	10.2	240
241	6.2	6.6	7.1	7.5	8.0	8.4	8.8	9.3	9.7	10.1	241
242	6.1	6.6	7.0	7.5	7.9	8.3	8.8	9.2	9.7	10.1	242
243	6.1	6.5	7.0	7.4	7.9	8.3	8.7	9.2	9.6	10.0	243
244	6.1	6.5	6.9	7.4	7.8	8.2	8.7	9.1	9.6	10.0	244
245	6.0	6.4	6.9	7.3	7.8	8.2	8.6	9.1	9.5	10.0	245
246	6.0	6.4	6.8	7.3	7.7	8.2	8.6	9.0	9.5	9.9	246
247	5.9	6.4	6.8	7.2	7.7	8.1	8.5	9.0	9.4	9.9	247
248	5.9	6.3	6.7	7.2	7.6	8.1	8.5	8.9	9.4	9.8	248
249	5.8	6.3	6.7	7.1	7.6	8.0	8.4	8.9	9.3	9.8	249
250	5.8	6.2	6.7	7.1	7.5	8.0	8.4	8.8	9.3	9.7	250

API GRAVITY = 15.0 TO 19.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	
250	5.8	6.2	6.7	7.1	7.5	8.0	8.4	8.8	9.3	9.7	250
251	5.7	6.2	6.6	7.0	7.5	7.9	8.4	8.8	9.2	9.7	251
252	5.7	6.1	6.6	7.0	7.4	7.9	8.3	8.7	9.2	9.6	252
253	5.6	6.1	6.5	6.9	7.4	7.8	8.3	8.7	9.1	9.6	253
254	5.6	6.0	6.5	6.9	7.3	7.8	8.2	8.6	9.1	9.5	254
255	5.5	6.0	6.4	6.9	7.3	7.7	8.2	8.6	9.0	9.5	255
256	5.5	5.9	6.4	6.8	7.2	7.7	8.1	8.6	9.0	9.4	256
257	5.5	5.9	6.3	6.8	7.2	7.6	8.1	8.5	8.9	9.4	257
258	5.4	5.8	6.3	6.7	7.2	7.6	8.0	8.5	8.9	9.3	258
259	5.4	5.8	6.2	6.7	7.1	7.5	8.0	8.4	8.8	9.3	259
260	5.3	5.8	6.2	6.6	7.1	7.5	7.9	8.4	8.8	9.2	260
261	5.3	5.7	6.1	6.6	7.0	7.4	7.9	8.3	8.7	9.2	261
262	5.2	5.7	6.1	6.5	7.0	7.4	7.8	8.3	8.7	9.1	262
263	5.2	5.6	6.1	6.5	6.9	7.3	7.8	8.2	8.6	9.1	263
264	5.1	5.6	6.0	6.4	6.9	7.3	7.7	8.2	8.6	9.0	264
265	5.1	5.5	6.0	6.4	6.8	7.3	7.7	8.1	8.6	9.0	265
266	5.0	5.5	5.9	6.3	6.8	7.2	7.6	8.1	8.5	8.9	266
267	5.0	5.4	5.9	6.3	6.7	7.2	7.6	8.0	8.5	8.9	267
268	5.0	5.4	5.8	6.3	6.7	7.1	7.5	8.0	8.4	8.8	268
269	4.9	5.3	5.8	6.2	6.6	7.1	7.5	7.9	8.4	8.8	269
270	4.9	5.3	5.7	6.2	6.6	7.0	7.5	7.9	8.3	8.7	270
271	4.8	5.3	5.7	6.1	6.5	7.0	7.4	7.8	8.3	8.7	271
272	4.8	5.2	5.6	6.1	6.5	6.9	7.4	7.8	8.2	8.6	272
273	4.7	5.2	5.6	6.0	6.4	6.9	7.3	7.7	8.2	8.6	273
274	4.7	5.1	5.5	6.0	6.4	6.8	7.3	7.7	8.1	8.5	274
275	4.6	5.1	5.5	5.9	6.4	6.8	7.2	7.6	8.1	8.5	275
276	4.6	5.0	5.5	5.9	6.3	6.7	7.2	7.6	8.0	8.5	276
277	4.5	5.0	5.4	5.8	6.3	6.7	7.1	7.5	8.0	8.4	277
278	4.5	4.9	5.4	5.8	6.2	6.6	7.1	7.5	7.9	8.4	278
279	4.5	4.9	5.3	5.7	6.2	6.6	7.0	7.5	7.9	8.3	279
280	4.4	4.8	5.3	5.7	6.1	6.6	7.0	7.4	7.8	8.3	280
281	4.4	4.8	5.2	5.7	6.1	6.5	6.9	7.4	7.8	8.2	281
282	4.3	4.7	5.2	5.6	6.0	6.5	6.9	7.3	7.7	8.2	282
283	4.3	4.7	5.1	5.6	6.0	6.4	6.8	7.3	7.7	8.1	283
284	4.2	4.7	5.1	5.5	5.9	6.4	6.8	7.2	7.6	8.1	284
285	4.2	4.6	5.0	5.5	5.9	6.3	6.7	7.2	7.6	8.0	285
286	4.1	4.6	5.0	5.4	5.8	6.3	6.7	7.1	7.5	8.0	286
287	4.1	4.5	4.9	5.4	5.8	6.2	6.7	7.1	7.5	7.9	287
288	4.1	4.5	4.9	5.3	5.8	6.2	6.6	7.0	7.5	7.9	288
289	4.0	4.4	4.9	5.3	5.7	6.1	6.6	7.0	7.4	7.8	289
290	4.0	4.4	4.8	5.2	5.7	6.1	6.5	6.9	7.4	7.8	290
291	3.9	4.3	4.8	5.2	5.6	6.0	6.5	6.9	7.3	7.7	291
292	3.9	4.3	4.7	5.1	5.6	6.0	6.4	6.8	7.3	7.7	292
293	3.8	4.3	4.7	5.1	5.5	5.9	6.4	6.8	7.2	7.6	293
294	3.8	4.2	4.6	5.1	5.5	5.9	6.3	6.7	7.2	7.6	294
295	3.7	4.2	4.6	5.0	5.4	5.9	6.3	6.7	7.1	7.5	295
296	3.7	4.1	4.5	5.0	5.4	5.8	6.2	6.7	7.1	7.5	296
297	3.6	4.1	4.5	4.9	5.3	5.8	6.2	6.6	7.0	7.5	297
298	3.6	4.0	4.5	4.9	5.3	5.7	6.1	6.6	7.0	7.4	298
299	3.6	4.0	4.4	4.8	5.3	5.7	6.1	6.5	6.9	7.4	299
300	3.5	3.9	4.4	4.8	5.2	5.6	6.0	6.5	6.9	7.3	300

API GRAVITY = 15.0 TO 19.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	
0	23.3	23.9	24.4	24.9	25.4	25.9	26.5	27.0	27.5	28.0	0
1	23.3	23.8	24.3	24.8	25.4	25.9	26.4	26.9	27.5	28.0	1
2	23.2	23.7	24.3	24.8	25.3	25.8	26.4	26.9	27.4	27.9	2
3	23.2	23.7	24.2	24.7	25.3	25.8	26.3	26.8	27.3	27.9	3
4	23.1	23.6	24.1	24.7	25.2	25.7	26.2	26.8	27.3	27.8	4
5	23.1	23.6	24.1	24.6	25.1	25.7	26.2	26.7	27.2	27.7	5
6	23.0	23.5	24.0	24.6	25.1	25.6	26.1	26.6	27.2	27.7	6
7	22.9	23.5	24.0	24.5	25.0	25.5	26.1	26.6	27.1	27.6	7
8	22.9	23.4	23.9	24.4	25.0	25.5	26.0	26.5	27.0	27.6	8
9	22.8	23.3	23.9	24.4	24.9	25.4	25.9	26.5	27.0	27.5	9
10	22.8	23.3	23.8	24.3	24.8	25.4	25.9	26.4	26.9	27.4	10
11	22.7	23.2	23.8	24.3	24.8	25.3	25.8	26.3	26.9	27.4	11
12	22.7	23.2	23.7	24.2	24.7	25.2	25.8	26.3	26.8	27.3	12
13	22.6	23.1	23.6	24.2	24.7	25.2	25.7	26.2	26.7	27.3	13
14	22.5	23.1	23.6	24.1	24.6	25.1	25.6	26.2	26.7	27.2	14
15	22.5	23.0	23.5	24.0	24.6	25.1	25.6	26.1	26.6	27.1	15
16	22.4	23.0	23.5	24.0	24.5	25.0	25.5	26.1	26.6	27.1	16
17	22.4	22.9	23.4	23.9	24.4	25.0	25.5	26.0	26.5	27.0	17
18	22.3	22.8	23.4	23.9	24.4	24.9	25.4	25.9	26.4	27.0	18
19	22.3	22.8	23.3	23.8	24.3	24.8	25.4	25.9	26.4	26.9	19
20	22.2	22.7	23.2	23.8	24.3	24.8	25.3	25.8	26.3	26.8	20
21	22.2	22.7	23.2	23.7	24.2	24.7	25.2	25.8	26.3	26.8	21
22	22.1	22.6	23.1	23.6	24.2	24.7	25.2	25.7	26.2	26.7	22
23	22.0	22.6	23.1	23.6	24.1	24.6	25.1	25.6	26.2	26.7	23
24	22.0	22.5	23.0	23.5	24.0	24.6	25.1	25.6	26.1	26.6	24
25	21.9	22.4	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.6	25
26	21.9	22.4	22.9	23.4	23.9	24.4	25.0	25.5	26.0	26.5	26
27	21.8	22.3	22.8	23.4	23.9	24.4	24.9	25.4	25.9	26.4	27
28	21.8	22.3	22.8	23.3	23.8	24.3	24.8	25.3	25.9	26.4	28
29	21.7	22.2	22.7	23.2	23.8	24.3	24.8	25.3	25.8	26.3	29
30	21.7	22.2	22.7	23.2	23.7	24.2	24.7	25.2	25.7	26.3	30
31	21.6	22.1	22.6	23.1	23.6	24.2	24.7	25.2	25.7	26.2	31
32	21.5	22.1	22.6	23.1	23.6	24.1	24.6	25.1	25.6	26.1	32
33	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.1	25.6	26.1	33
34	21.4	21.9	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	34
35	21.4	21.9	22.4	22.9	23.4	23.9	24.4	24.9	25.5	26.0	35
36	21.3	21.8	22.3	22.8	23.4	23.9	24.4	24.9	25.4	25.9	36
37	21.3	21.8	22.3	22.8	23.3	23.8	24.3	24.8	25.3	25.8	37
38	21.2	21.7	22.2	22.7	23.2	23.8	24.3	24.8	25.3	25.8	38
39	21.2	21.7	22.2	22.7	23.2	23.7	24.2	24.7	25.2	25.7	39
40	21.1	21.6	22.1	22.6	23.1	23.6	24.1	24.7	25.2	25.7	40
41	21.0	21.6	22.1	22.6	23.1	23.6	24.1	24.6	25.1	25.6	41
42	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	42
43	20.9	21.4	21.9	22.5	23.0	23.5	24.0	24.5	25.0	25.5	43
44	20.9	21.4	21.9	22.4	22.9	23.4	23.9	24.4	24.9	25.4	44
45	20.8	21.3	21.8	22.3	22.8	23.4	23.9	24.4	24.9	25.4	45
46	20.8	21.3	21.8	22.3	22.8	23.3	23.8	24.3	24.8	25.3	46
47	20.7	21.2	21.7	22.2	22.7	23.2	23.7	24.2	24.8	25.3	47
48	20.7	21.2	21.7	22.2	22.7	23.2	23.7	24.2	24.7	25.2	48
49	20.6	21.1	21.6	22.1	22.6	23.1	23.6	24.1	24.6	25.1	49
50	20.5	21.1	21.6	22.1	22.6	23.1	23.6	24.1	24.6	25.1	50

API GRAVITY = 20.0 TO 24.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE CORRESPONDING API GRAVITY AT 60 F										TEMP. F
	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	
50	20.5	21.1	21.6	22.1	22.6	23.1	23.6	24.1	24.6	25.1	50
51	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	51
52	20.4	20.9	21.4	21.9	22.5	23.0	23.5	24.0	24.5	25.0	52
53	20.4	20.9	21.4	21.9	22.4	22.9	23.4	23.9	24.4	24.9	53
54	20.3	20.8	21.3	21.8	22.3	22.8	23.3	23.8	24.3	24.8	54
55	20.3	20.8	21.3	21.8	22.3	22.8	23.3	23.8	24.3	24.8	55
56	20.2	20.7	21.2	21.7	22.2	22.7	23.2	23.7	24.2	24.7	56
57	20.2	20.7	21.2	21.7	22.2	22.7	23.2	23.7	24.2	24.7	57
58	20.1	20.6	21.1	21.6	22.1	22.6	23.1	23.6	24.1	24.6	58
59	20.1	20.6	21.1	21.6	22.1	22.6	23.1	23.6	24.1	24.6	59
60	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	60
61	19.9	20.4	20.9	21.4	21.9	22.4	22.9	23.4	23.9	24.4	61
62	19.9	20.4	20.9	21.4	21.9	22.4	22.9	23.4	23.9	24.4	62
63	19.8	20.3	20.8	21.3	21.8	22.3	22.8	23.3	23.8	24.3	63
64	19.8	20.3	20.8	21.3	21.8	22.3	22.8	23.3	23.8	24.3	64
65	19.7	20.2	20.7	21.2	21.7	22.2	22.7	23.2	23.7	24.2	65
66	19.7	20.2	20.7	21.2	21.7	22.2	22.7	23.2	23.7	24.2	66
67	19.6	20.1	20.6	21.1	21.6	22.1	22.6	23.1	23.6	24.1	67
68	19.6	20.1	20.6	21.1	21.6	22.0	22.5	23.0	23.5	24.0	68
69	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	69
70	19.5	20.0	20.4	20.9	21.4	21.9	22.4	22.9	23.4	23.9	70
71	19.4	19.9	20.4	20.9	21.4	21.9	22.4	22.9	23.4	23.9	71
72	19.3	19.8	20.3	20.8	21.3	21.8	22.3	22.8	23.3	23.8	72
73	19.3	19.8	20.3	20.8	21.3	21.8	22.3	22.8	23.3	23.7	73
74	19.2	19.7	20.2	20.7	21.2	21.7	22.2	22.7	23.2	23.7	74
75	19.2	19.7	20.2	20.7	21.2	21.7	22.2	22.6	23.1	23.6	75
76	19.1	19.6	20.1	20.6	21.1	21.6	22.1	22.6	23.1	23.6	76
77	19.1	19.6	20.1	20.6	21.0	21.5	22.0	22.5	23.0	23.5	77
78	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	78
79	19.0	19.5	20.0	20.4	20.9	21.4	21.9	22.4	22.9	23.4	79
80	18.9	19.4	19.9	20.4	20.9	21.4	21.9	22.4	22.9	23.3	80
81	18.9	19.4	19.8	20.3	20.8	21.3	21.8	22.3	22.8	23.3	81
82	18.8	19.3	19.8	20.3	20.8	21.3	21.8	22.2	22.7	23.2	82
83	18.8	19.2	19.7	20.2	20.7	21.2	21.7	22.2	22.7	23.2	83
84	18.7	19.2	19.7	20.2	20.7	21.2	21.6	22.1	22.6	23.1	84
85	18.6	19.1	19.6	20.1	20.6	21.1	21.6	22.1	22.6	23.1	85
86	18.6	19.1	19.6	20.1	20.5	21.0	21.5	22.0	22.5	23.0	86
87	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	22.9	87
88	18.5	19.0	19.5	19.9	20.4	20.9	21.4	21.9	22.4	22.9	88
89	18.4	18.9	19.4	19.9	20.4	20.9	21.4	21.9	22.3	22.8	89
90	18.4	18.9	19.4	19.8	20.3	20.8	21.3	21.8	22.3	22.8	90
91	18.3	18.8	19.3	19.8	20.3	20.8	21.3	21.7	22.2	22.7	91
92	18.3	18.8	19.2	19.7	20.2	20.7	21.2	21.7	22.2	22.7	92
93	18.2	18.7	19.2	19.7	20.2	20.7	21.1	21.6	22.1	22.6	93
94	18.2	18.6	19.1	19.6	20.1	20.6	21.1	21.6	22.1	22.5	94
95	18.1	18.6	19.1	19.6	20.1	20.5	21.0	21.5	22.0	22.5	95
96	18.1	18.5	19.0	19.5	20.0	20.5	21.0	21.5	21.9	22.4	96
97	18.0	18.5	19.0	19.5	19.9	20.4	20.9	21.4	21.9	22.4	97
98	17.9	18.4	18.9	19.4	19.9	20.4	20.9	21.3	21.8	22.3	98
99	17.9	18.4	18.9	19.3	19.8	20.3	20.8	21.3	21.8	22.3	99
100	17.8	18.3	18.8	19.3	19.8	20.3	20.7	21.2	21.7	22.2	100

API GRAVITY = 20.0 TO 24.5

TABLE 5D, GENERALIZED LUBRICATING OILS
API CORRECTION TO 60 F

TEMP. F	API GRAVITY AT OBSERVED TEMPERATURE										TEMP. F
	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	
	CORRESPONDING API GRAVITY AT 60 F										
100	17.8	18.3	18.8	19.3	19.8	20.3	20.7	21.2	21.7	22.2	100
101	17.8	18.3	18.8	19.2	19.7	20.2	20.7	21.2	21.7	22.1	101
102	17.7	18.2	18.7	19.2	19.7	20.2	20.6	21.1	21.6	22.1	102
103	17.7	18.2	18.6	19.1	19.6	20.1	20.6	21.1	21.5	22.0	103
104	17.6	18.1	18.6	19.1	19.6	20.0	20.5	21.0	21.5	22.0	104
105	17.6	18.1	18.5	19.0	19.5	20.0	20.5	21.0	21.4	21.9	105
106	17.5	18.0	18.5	19.0	19.4	19.9	20.4	20.9	21.4	21.9	106
107	17.5	17.9	18.4	18.9	19.4	19.9	20.4	20.8	21.3	21.8	107
108	17.4	17.9	18.4	18.9	19.3	19.8	20.3	20.8	21.3	21.7	108
109	17.4	17.8	18.3	18.8	19.3	19.8	20.2	20.7	21.2	21.7	109
110	17.3	17.8	18.3	18.7	19.2	19.7	20.2	20.7	21.2	21.6	110
111	17.2	17.7	18.2	18.7	19.2	19.7	20.1	20.6	21.1	21.6	111
112	17.2	17.7	18.2	18.6	19.1	19.6	20.1	20.6	21.0	21.5	112
113	17.1	17.6	18.1	18.6	19.1	19.5	20.0	20.5	21.0	21.5	113
114	17.1	17.6	18.1	18.5	19.0	19.5	20.0	20.5	20.9	21.4	114
115	17.0	17.5	18.0	18.5	19.0	19.4	19.9	20.4	20.9	21.4	115
116	17.0	17.5	17.9	18.4	18.9	19.4	19.9	20.3	20.8	21.3	116
117	16.9	17.4	17.9	18.4	18.8	19.3	19.8	20.3	20.8	21.2	117
118	16.9	17.4	17.8	18.3	18.8	19.3	19.8	20.2	20.7	21.2	118
119	16.8	17.3	17.8	18.3	18.7	19.2	19.7	20.2	20.7	21.1	119
120	16.8	17.2	17.7	18.2	18.7	19.2	19.6	20.1	20.6	21.1	120
121	16.7	17.2	17.7	18.2	18.6	19.1	19.6	20.1	20.5	21.0	121
122	16.7	17.1	17.6	18.1	18.6	19.1	19.5	20.0	20.5	21.0	122
123	16.6	17.1	17.6	18.0	18.5	19.0	19.5	20.0	20.4	20.9	123
124	16.6	17.0	17.5	18.0	18.5	18.9	19.4	19.9	20.4	20.8	124
125	16.5	17.0	17.5	17.9	18.4	18.9	19.4	19.8	20.3	20.8	125
126	16.5	16.9	17.4	17.9	18.4	18.8	19.3	19.8	20.3	20.7	126
127	16.4	16.9	17.4	17.8	18.3	18.8	19.3	19.7	20.2	20.7	127
128	16.3	16.8	17.3	17.8	18.3	18.7	19.2	19.7	20.2	20.6	128
129	16.3	16.8	17.2	17.7	18.2	18.7	19.1	19.6	20.1	20.6	129
130	16.2	16.7	17.2	17.7	18.1	18.6	19.1	19.6	20.0	20.5	130
131	16.2	16.7	17.1	17.6	18.1	18.6	19.0	19.5	20.0	20.5	131
132	16.1	16.6	17.1	17.6	18.0	18.5	19.0	19.5	19.9	20.4	132
133	16.1	16.6	17.0	17.5	18.0	18.5	18.9	19.4	19.9	20.3	133
134	16.0	16.5	17.0	17.5	17.9	18.4	18.9	19.3	19.8	20.3	134
135	16.0	16.5	16.9	17.4	17.9	18.3	18.8	19.3	19.8	20.2	135
136	15.9	16.4	16.9	17.3	17.8	18.3	18.8	19.2	19.7	20.2	136
137	15.9	16.3	16.8	17.3	17.8	18.2	18.7	19.2	19.7	20.1	137
138	15.8	16.3	16.8	17.2	17.7	18.2	18.7	19.1	19.6	20.1	138
139	15.8	16.2	16.7	17.2	17.7	18.1	18.6	19.1	19.5	20.0	139
140	15.7	16.2	16.7	17.1	17.6	18.1	18.5	19.0	19.5	20.0	140
141	15.7	16.1	16.6	17.1	17.5	18.0	18.5	19.0	19.4	19.9	141
142	15.6	16.1	16.6	17.0	17.5	18.0	18.4	18.9	19.4	19.8	142
143	15.6	16.0	16.5	17.0	17.4	17.9	18.4	18.9	19.3	19.8	143
144	15.5	16.0	16.4	16.9	17.4	17.9	18.3	18.8	19.3	19.7	144
145	15.5	15.9	16.4	16.9	17.3	17.8	18.3	18.7	19.2	19.7	145
146	15.4	15.9	16.3	16.8	17.3	17.7	18.2	18.7	19.2	19.6	146
147	15.4	15.8	16.3	16.8	17.2	17.7	18.2	18.6	19.1	19.6	147
148	15.3	15.8	16.2	16.7	17.2	17.6	18.1	18.6	19.0	19.5	148
149	15.2	15.7	16.2	16.7	17.1	17.6	18.1	18.5	19.0	19.5	149
150	15.2	15.7	16.1	16.6	17.1	17.5	18.0	18.5	18.9	19.4	150

API GRAVITY = 20.0 TO 24.5