

This Research Report is issued under the fixed designation RR: D02-1537. You agree not to reproduce or circulate or quote, in whole or part, this document outside of ASTM International Committee/Society activities, or submit it to any other organization or standards body (whether national, international or other) except with the approval of the Chairman of the Committee having jurisdiction and the written authorization of the President of the Society. If you do not agree to these conditions, please immediately destroy all copies of this document. *Copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. All rights reserved.*

31 March 2003

**Committee D02 on Petroleum Products and Lubricants**  
**Subcommittee D02.05 on Properties of Fuels, Petroleum Coke and Carbon**  
**Material**

**Research Report D02-1537**

**Interlaboratory Study to Establish Precision Statements for ASTM**  
**D6447, Standard Test Method for Hydroperoxide Number of Aviation**  
**Turbine Fuels by Voltammetric Analysis**

ASTM International  
100 Barr Harbor Drive  
West Conshohocken, PA 19428-2959

**COMMITTEE D02 ON PETROLEUM PRODUCTS AND LUBRICANTS****Research report: D02: \_\_\_\_\_****Interlaboratory Study Performed to Determine Precision of ASTM Standard Test Method D6447-99 "Hydroperoxide Number of Aviation Turbine Fuels by Voltammetric Analysis" for Subcommittee D02.05.0C**Introduction

In accordance with the ASTM requirement that all test methods include precision statements in terms of repeatability and reproducibility, the statistical data for ASTM Standard Test Method D6447-99, "Hydroperoxide Number of Aviation Turbine Fuels by Voltammetric Analysis," is reported herein. The statistical data were calculated from the results of an interlaboratory study (ILS) performed in June 1994 to evaluate the final draft of D6447 prior to submission for ASTM approval. There were no changes made in the experimental procedure of the final draft test method during the ILS or ASTM approval process. A copy of the draft test method evaluated by the interlaboratory study is attached as Appendix A

The ILS was performed with nine laboratories performing hydroperoxide analyses on seven different jet and diesel fuels. The voltammetric analyses were performed with PERFECT (Peroxide in Fuel Evaluation and Concentration Test) instruments constructed by the University of Dayton Research Institute (UDRI). Two models of the PERFECT instrument were used in the ILS.

The statistical results for ASTM Standard Test Method D6447-99 were calculated by computer using the CD version of D2PP, "Determination of Precision and Bias Data for Use in Test Methods for Petroleum Products and Lubricants (Version 3.1)" developed by David M. G. Lawrey.

### Participating Laboratories

The contact person (researcher responsible for performing tests) and address of each laboratory that participated in the interlaboratory study are listed below:

Robert Kauffman  
University of Dayton Research Institute  
300 College Park  
Dayton OH 45469

Robert Morris  
Naval Research Laboratory  
Code 6180  
Washington DC 20375-5000

Mike Sundberg  
Naval Air Warfare Center  
P.O. Box 7176, PE 33  
Trenton NJ 08628-0176

Chris Dickey  
NAWC  
Code 6062  
Street and Jacksonville  
Warminster PA 18974

Ron Gilbertson  
OL SA-ALC/SFTLI  
1335 Tularosa Rd  
Holloman AFB NM 88330-7929

Jim Katilaus  
Code 6242  
Carderock Division  
Naval Surface Warfare Center  
Philadelphia PA 19112-5083

Richard Cunningham  
Petroleum Laboratory (P)  
Spot 588  
DuPont Company  
Chambers Works  
Deepwater NJ 08023

Bill Herguth  
Herguth Laboratory  
101 Corporate Place  
P.O. Box B  
Vallejo CA 94590

Becky Grinstead  
WL/POSF Bldg 490  
1790 Loop Road N  
WPAFB OH 45433-7103

The laboratories were assigned the letter codes A-I (independent from order of above table) for reporting purposes in the tables displaying the test results and statistical data in Appendix B.

### Test Supplies

All of the chemicals, vials and other miscellaneous supplies required by the test method were purchased by the participating laboratories.