



Address 100 Barr Harbor Drive
PO Box C700
W. Conshohocken, PA
19428-2959 | USA

Phone 610.832.9500
Fax 610.832.9666
Web www.astm.org

Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

Chairman: KENNETH O. HENDERSON, Cannon Instrument Co., 2139 High Tech Road, State College, PA 16803, (814) 353-8000, Fax: (814) 353-8007, e-mail: kenohenderson@worldnet.att.net
First Vice-Chairman: BEN R. BONAZZA, TI Group Automotive Systems, Caro Research Center, 326 Green Street, Caro, MI, 48723 (989) 673-8181 ext. 227, Fax: (989) 673-3241, e-mail: bbonazza@us.tiauto.com
Second Vice-Chairman: JANET L. LANE, ExxonMobil Research & Engrg., 600 Billingsport Rd, Paulsboro, NJ 08066-0480 (856) 224-3302, Fax: (856) 224-3616, e-mail: janet.l.lane@exxonmobil.com
First Secretary: RALPH A. CHERRILLO, Shell Global Solutions (US) Inc., Westhollow Tech Ctr., 3333 Highway 6 South, Houston, TX 77082 (281) 544-8789, Fax: (281) 544-8150, e-mail: ralph.cherrillo@shell.com
Second Secretary: MICHAEL A. COLLIER, Petroleum Analyzer Co. LP, PO Box 206, Wilmington, IL 60481, (815) 458-0216, Fax: (815) 458-0217, e-mail: macvarlen@aol.com
Staff Manager: DAVID R. BRADLEY, (610) 832-9681, Fax: (610) 832-9668, e-mail: dbradley@astm.org

September 12, 2013

Reply to:

Larry Hamilton

The Lubrizol Corporation

29400 Lakeland Blvd.

Wickliffe, Ohio 44092

(440) 347-2326

Larry.hamilton@lubrizol.com

ASTM D02.B0.03 L-60-1 Surveillance Panel

Members and Guests:

Attached for your review and comments are the unconfirmed minutes of the August 14, 2013

L-60-1 Surveillance Panel meeting held at PRI Headquarters, Warrendale, PA.

Please direct any corrections or comments to my attention.

Sincerely,

Larry Hamilton; Chairman

L-60-1 Surveillance Panel

ASTM L-60-1 (D5704) Surveillance Panel Meeting Minutes

Warrendale, PA

08/14/2013

Meeting was called to order at 09:35

Attendees: voting member in **BOLD**

| | |
|------------|---|
| AAM | No Rep |
| Afton | M. Keisler ; T. Boschert; D. Bell; B. Kearney |
| AMSTA-TAR | A. Comfort ; B. Dwornick |
| BASF | No Rep |
| Eaton | T. Marougy |
| ExxonMobil | R. Banas ; P. Kanga |
| G. M. | No Rep |
| Intertek | D. Smith ; A. Trader; N. Aguirre |
| Lubrizol | L. Hamilton (Chairman); J. Gropp; M. Umerley; C. Prengaman |
| Meritor | No Rep |
| SwRI | B. Koehler |
| TMC | S. Parke |
| Volvo | A. Athey |

Sign-in and review of membership

Attendance was taken and voting membership reviewed.

The sign-in sheets, identifying attendance and voting membership, is included; see attachment # 1

Review of Agenda

The Agenda was reviewed and is included; see attachment # 2

Approval of meeting minutes

Chairman entertained motion for acceptance of the May 15th; 2013, Surveillance Panel Meeting.

Motioned by Marc Keisler (Afton) and **Seconded** by Rob Banas (ExxonMobil) to except the minutes.

Passed 8-0-0

Review of Industry Alarms

The Pentane / Toluene alarms have been cleared.

Average Carbon Varnish has now gone into alarm. 5 alarms have occurred at multiple Labs. The alarms will be reviewed at the November meeting. The report is generated twice a year, and will occur in October. See attachment # 3

L-60-1 Rating Jig

L. Hamilton reminded the Test Laboratories that the new rating Jig is mandatory use for rating L-60-1 test gears. Previously Labs were allowed to use the Jig before the required date. All Labs responded that the Jigs were in use and no problems had been encountered.

Sierra Top Track

The procedure will need to be corrected (the model number for the top track is incorrect and missing some characters). In addition, the supplier has changed the part number notation for the same part; for the accuracy specification.

Motion to correct the Sierra Top Trak model number in section 8.10 by adding PV1 to the first model and to add a foot note stating the new 822S models will have SCR2700 at the end of the model number and is the same as A1 on the older models.

*modification to the motion – put the older A1 note in the footnote, and the SCR2700 comment in the main body of the procedure. See attachment # 4

Motioned by Dale Smith (Intertek) and **Seconded** by Brian Koehler (SwRI) **Passed 8-0-0**

TMC Lab Visit Update:

S. Parke updated the group on the lab visit – a summary was emailed to the group. All issues/differences at the labs or deviations from procedures have been addressed at this time.

J. Gropp shared concerns that labs clearly weren't reading and following the procedures for this analytical test.

Screen Cut Supplier / Johnson Abrasive Update

A sample of the new material with chemical coating was passed around (but in the incorrect grit). The new coating that will be used is a proprietary makeup, and will not be shared with the panel.

L. Hamilton will attempt to acquire samples and distribute to the labs for comparison. It was - recommended labs acquire sufficient quantity of the current stock till the new stock can be evaluated. It was not known at this time if this will change the part number of the screen cut. The supplier has indicated he believes there is enough stock to get into 2014 before the new coating will become available.

Information Letter 10-1

ASTM Procedure: IL 10-1 has been incorporated into the procedure. It had been mistakenly left out of the procedure and is now in D5704-13.

New Business

There was no New Business.

Adjournment

Motioned by Dale Smith (Intertek) and **Seconded** by Marc Keisler (Afton); to adjourn meeting. **Motion Passed 8-0-0**

Respectfully Submitted;

A handwritten signature in blue ink that reads "Larry Hamilton" with a long horizontal flourish extending to the right.

Larry Hamilton

L-60-1 Surveillance Panel Chairman

ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: August 14, 2013

Attachment 1

| Present / Initial | Name | Voting Status | Company Name & Address | Phone & Fax & E-Mail |
|-------------------|------------------|---------------|--|--|
| AA | Athey, Allison | Voting | Volvo Group Trucks Technology 13302 Pennsylvania Avenue Hagerstown, Maryland 21740 | Phone: 301-573-5684 Fax: E-Mail: allison.athey@volvo.com |
| RS | Banas, Rob | Voting | ExxonMobil Fuels Lubricants & Specialties 114 Arcadia Park Drive Canton, GA 30114 | Phone: 678-493-3930 Fax: E-Mail: rob.banas@exxonmobil.com |
| | Barrera, Tony | Non-voting | Intertek Automotive Research 5454 Bandera Rd San Antonio TX 78238 | Phone: 210-523-4653 Fax: E-Mail: tony.barrera@intertek.com |
| Don Bell | Bell, Don | Non-voting | Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219 | Phone: 804-788-6332 Fax: 804-788-6342 E-Mail: Don.Bell@aftonchemical.com |
| Tom Boschert | Boschert, Tom | Non-voting | Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219 | Phone: 804-788-5202 Fax: 804-788-6342 E-Mail: Tom.Boschert@aftonchemical.com |
| | Bubonic, Brad | Non-voting | The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092 | Phone: 440-347-5321 Fax: 440-347-2878 E-Mail: brad.bubonic@lubrizol.com |
| | Chambers, Harold | Non-voting | 43945 Merrill Rd. Sterling Hts., MI 48314 | Phone: (586) 770-4694 Fax: E-Mail: haroldchambers@gmail.com |
| | Clark, Jeff | Non-voting | ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pennsylvania 15206 | Phone: 412-365-1032 Fax: 412-365-1047 E-Mail: fmf@astmtmc.cmu.edu |
| A.C. | Comfort, Allen | Non-voting | AMSTA-TR-D/210 (Allen Comfort) U S Army Tank, Automotive, and Armament Command Warren, Michigan 48397-5000 | Phone: 586-282-4225 Fax: 586-282-4244 E-Mail: allen.s.comfort.civ@mail.mil |
| | Dharte, John | Non-voting | American Axle 1 Dauch Dr Detroit, MI 48212 | Phone: 313 758-4687 Fax: E-Mail: DharteJ@aam.com |

* Initial to indicate attendance at subject meeting

ASTM L-60-1 Surveillance Panel Membership/Mailing List






Meeting Date: August 14, 2013

| Present / Initial | Name | Voting Status | Company Name & Address | Phone & Fax & E-Mail |
|-------------------|-------------------|---------------|--|---|
| <i>BD</i> | Dwornick, Bridget | Non-voting | AMSTRD-TAR-D/210 6501 E.11 Mile Rd Warren,MI 48397-5000 | Phone: 586-282-4221 Fax: 586-282-4244 E-Mail: bridget.dwornick@us.army.mil |
| | Gottwald, Thomas | Non-voting | Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219 | Phone: 804-788-5230 Fax: 804-788-6358 E-Mail: thomas.gottwald@aftonchemical.com |
| | Greene, Galen | Voting | BASF Corporation 100 Pash Ave Florham Pash, NJ | Phone: 973-873-4816 Fax: E-Mail: galen.greene@basf.com |
| <i>JG</i> | Gropp, Jerry | Non-voting | The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092 | Phone: 440-347-1223 Fax: 440-347-1555 E-Mail: jerrold.gropp@lubrizol.com |
| <i>LH</i> | Hamilton, Larry | Voting | The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092 | Phone: 440-347-2326 Fax: 440-347-2878 E-Mail: larry.hamilton@lubrizol.com |
| | Hobson, Kevin | Non-voting | Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219 | Phone: 804-788-5375 Fax: 804-788-6358 E-Mail: kevin.hobson@aftonchemical.com |
| | Huron, John | Non-voting | Chevron Oronite 4502 Centerview Drive, Suite 210 San Antonio, Texas 78228 | Phone: 210-731-5609 Fax: 210-731-5699 E-Mail: HURO@ChevronTexaco.com |
| | Jackson, Matt | Non-voting | Southwest Research Institute 6220 Culebra Road Bldg.209 San Antonio, TX 78238-5166 | Phone: (210) 522-6981 Fax: E-Mail: matt.jackson@swri.org |
| <i>P.R. Kanga</i> | Kanga, Percy R. | Non-Voting | Commercial Vehicle, Marine & Gas Engine Lubricants ExxonMobil Research & Engineering 600 Billingsport Road Paulsboro, NJ. 08066 | Phone: 856-224-2094 Fax: 856-224-3613 E-Mail: percy.r.kanga@exxonmobil.com |
| <i>WAIK</i> | Kearney, Bill | Non-voting | Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219 | Phone: 248-350-0640 Fax: E-Mail: bill.kearney@aftonchemical.com |

* Initial to indicate attendance at subject meeting

ASTM L-60-1 Surveillance Panel Membership/Mailing List




Meeting Date: August 14, 2013

| Present / Initial | Name | Voting Status | Company Name & Address | Phone & Fax & E-Mail |
|--|------------------|----------------------|--|--|
|  | Keisler, Marc | Voting | Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219 | Phone: 804-788-5617 Fax: E-Mail: marc.keisler@aftonchemical.com |
|  | Koehler, Brian | Voting | Southwest Research Institute 6220 Culebra Road Bldg.209 San Antonio, TX 78238-5166 | Phone: (210) 522-3588 Fax: (210) 684-7523 E-Mail: bkoehler@swri.org |
| | Koglin, Cory | Non-voting | Afton Chemical Corporation 2000 Town Center Suite 1160 Southfield, MI 48075 | Phone: 248-996-0386 Fax: E-Mail: |
|  | Marougy, Thelma | Non-voting | Eaton Corporation 26201 Northwestern Highway Southfield, Michigan 48037 | Phone: 248-354-6985 Fax: 248-354-2739 E-Mail: thelmaemarougy@eaton.com |
| | McGlone, Bruce | Voting | Meritor 2135 West Maple Troy, Michigan 48084 | Phone: 248-435-9929 Fax: 248-435-6602 E-Mail: Bruce.McGlone@meritor.com |
| | Mosher, Donna | Non-voting | Eaton Corporation 26201 Northwestern Highway Southfield, Michigan 48037 | Phone: 269-342-3039 Fax: E-Mail: donnamosher@eaton.com |
| | Muransky, Troy | Non-voting | Meritor 2135 West Maple Troy, Michigan 48084 | Phone: 248-435-1409 Fax: E-Mail: troy.muransky@meritor.com |
| | O'Brien, Cheryl | Non-voting | General Motors | Phone: 248-343-7347 Fax: E-Mail: cheryl.obrien@gm.com |
|  | Parke, Scott | Voting | ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pennsylvania 15206 | Phone: 412-365-1030 Fax: 412-365-1047 E-Mail: fmf@astmtmc.cmu.edu |
|  | Prengaman, Chris | Non-voting | The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092 | Phone: 440-347-4225 Fax: 440-347-2878 E-Mail: chris.prengaman@lubrizol.com |

* Initial to indicate attendance at subject meeting

ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: August 14, 2013

| Present / Initial | Name | Voting Status | Company Name & Address | Phone & Fax & E-Mail |
|--|--------------------|---------------|--|--|
| | Recinos, Will | Non-voting | Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219 | Phone: 804-788-5323 Fax: E-Mail: william.recinos@aftonchemical.com |
| | Shah, Rajesh | Non-voting | Koehler Instrument Company 1595 Sycamore Avenue Bohemia, New York 11716 | Phone: 516-589-3800 Fax: 516-589-3815 E-Mail: |
|  | Smith, Dale | Voting | 5404 Intertek Automotive Research 5404 Bandera Rd San Antonio TX 78238 | Phone: 412-855-6854 Fax: E-Mail: Dale.Smith@intertek.com |
| | Sullivan, Bill | Non-voting | WTSullivan, Inc. 5 Scheiber Drive Brick, New Jersey 08723 | Phone: 908-930-3512 Fax: 267-220-7750 E-Mail: wtsullivan@comcast.net |
| | Suresh, Arunya | Non-voting | BASF Corporation 100 Pash Ave Florham Pash, NJ | Phone: 914-262-8715 Fax: E-Mail: arunya.suresh@basf.com |
| | Thorpe, Ryan | Non-voting | Southwest Research Institute Bldg.209 San Antonio, TX 78238-5166 6220 Culebra Road | Phone: (210) 522-6404 Fax: (210) 684-7523 E-Mail: ryan.thorpe@swri.org |
|  | Trader, Angela | Non-voting | 5404 Intertek Automotive Research 5404 Bandera Rd San Antonio TX 78238 | Phone: 210-706-1533 Fax: E-Mail: angela.trader@intertek.com |
|  | Umerley, Matt | Non-voting | The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092 | Phone: 440-347-4589 Fax: 440-347-2878 E-Mail: matthew.umerley@lubrizol.com |
| | Ved, shintan | Non-voting | Ford- Trans & Driveline Lubrication 35500 Plymouth Rd. Livonia, MI 48150 | Phone: 313-805-9695 Fax: 267-220-7750 E-Mail: cved@ford.com |
| | Villahermosa, Luis | Non-voting | AMSTA-TR-D/210 (Luis Villahermosa) U S Army Tank, Automotive, and Armament Command Warren, Michigan 48397-5000 | Phone: 586-574-4207 Fax: 586-574-4123 E-Mail: villahel@cc.tacom.army.mil |

* Initial to indicate attendance at subject meeting

ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: August 14, 2013

| Present / Initial | Name | Voting Status | Company Name & Address | Phone & Fax & E-Mail |
|-------------------|------------------|---------------|--|--|
| | Zakarian, Jack | Non-voting | Chevron Products Company 100 Chevron Way Richmond, California 94802-0627 | Phone: 510-242-3595 Fax: 510-242-3758 E-Mail: jaza@chevron.com |
| | Zreik, Khaled | Non-voting | General Motors | Phone: 248-977-9214 Fax: E-Mail: khaled.zreik@gm.com |
| NPA | AGUIRRE Nancy | NON Voting | Intertek | Phone: 210-22647-9428 Fax: E-Mail: Nancy, AGUIRRE@ Intertek.com |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |
| | | | | Phone: Fax: E-Mail: |

* Initial to indicate attendance at subject meeting

L-60-1 Surveillance Panel

Test Method D5704

August 14, 2013

Warrendale, PA

Agenda

- I. Call to Order
- II. Agenda review
- III. Voting Membership review
- IV. Approval of the May 15, 2013 SP meeting minutes.
- V. Reminder to use the new L-60-1 rating jig
- VI. Review of Industry Alarms
- VII. Sierra Top Trak Model; Test Procedure 8.10 (Angela Trader)
- VIII. TMC Lab Visit update (Scott Parke)
- IX. Information Letter 10-1* (Larry Hamilton)
- X. Johnson Abrasive up-date (Larry Hamilton)
- XI. New Business
- XII. Adjournment

*The latest version of the test procedure D5704-13 has incorporated Information Letter 10-1

**For those not traveling, the call in number will be 216-706-7052; Code 324160

Voting Members

1. Allison Athey
2. Allen Comfort
3. Bob Banas
4. Galen Greene
5. Larry Hamilton
6. Marc Keisler
7. Brian Koehler
8. Bruce McGlone
9. Scott Parke
10. Dale Smith



Industry Alarm Notification: L601

From: Scott D. Parke

Date: 20130521 11:36

The following industry alarm changes were observed while control charting the most recent test reported to the Test Monitoring Center:

| Parameter | nsize | Zi Value | Zi Warning Limit | Zi Action Limit | Zi Alarm Status | Qi Value | Qi Warning Limit | Qi Action Limit | Qi Alarm Status |
|-----------|-------|----------|------------------|-----------------|-----------------|----------|------------------|-----------------|-----------------|
| VISI | 722 | 0.582 | ±0.709 | ±0.863 | | -0.686 | +0.636 | +0.800 | |
| PEN | 722 | 0.539 | ±0.709 | ±0.863 | | -0.756 | +0.636 | +0.800 | |
| TOL | 722 | 0.684 | ±0.709 | ±0.863 | | -0.637 | +0.636 | +0.800 | |
| ACV | 722 | -0.706 | ±0.709 | ±0.863 | | -1.033 | +0.636 | +0.800 | |
| ASL | 722 | -0.408 | ±0.709 | ±0.863 | | -0.366 | +0.636 | +0.800 | |

The industry plots, that can be viewed from the TMC Website on the internet, reflect the current industry alarm status. If you have any questions, feel free to contact the TMC.

Industry Alarm Notification: L601

From: Scott D. Parke

Date: 20130703 13:49

The following industry alarm changes were observed while control charting the most recent test reported to the Test Monitoring Center:

| Parameter | nsize | Zi Value | Zi Warning Limit | Zi Action Limit | Zi Alarm Status | Qi Value | Qi Warning Limit | Qi Action Limit | Qi Alarm Status |
|-----------|-------|----------|------------------|-----------------|-----------------|----------|------------------|-----------------|-----------------|
| VISI | 725 | 0.186 | ±0.709 | ±0.863 | | -0.743 | +0.636 | +0.800 | |
| PEN | 725 | 0.298 | ±0.709 | ±0.863 | | -0.878 | +0.636 | +0.800 | |
| TOL | 725 | 0.433 | ±0.709 | ±0.863 | | -0.639 | +0.636 | +0.800 | |
| ACV | 725 | -0.966 | ±0.709 | ±0.863 | Action | -1.134 | +0.636 | +0.800 | |
| ASL | 725 | -0.215 | ±0.709 | ±0.863 | | -0.487 | +0.636 | +0.800 | |

The industry plots, that can be viewed from the TMC Website on the internet, reflect the current industry alarm status. If you have any questions, feel free to contact the TMC.

Industry Alarm Notification: L601

From: Richard E. Grundza

Date: 20130724 11:01

The following industry alarm changes were observed while control charting the most recent test reported to the Test Monitoring Center:

| Parameter | nsize | Zi Value | Zi Warning Limit | Zi Action Limit | Zi Alarm Status | Qi Value | Qi Warning Limit | Qi Action Limit | Qi Alarm Status |
|-----------|-------|----------|------------------|-----------------|-----------------|----------|------------------|-----------------|-----------------|
| VISI | 726 | 0.262 | ±0.709 | ±0.863 | | -0.568 | +0.636 | +0.800 | |
| PEN | 726 | 0.266 | ±0.709 | ±0.863 | | -0.962 | +0.636 | +0.800 | |
| TOL | 726 | 0.292 | ±0.709 | ±0.863 | | -0.486 | +0.636 | +0.800 | |
| ACV | 726 | -0.995 | ±0.709 | ±0.863 | Action | -1.101 | +0.636 | +0.800 | |
| ASL | 726 | -0.501 | ±0.709 | ±0.863 | | -0.161 | +0.636 | +0.800 | |

The industry plots, that can be viewed from the TMC Website on the internet, reflect the current industry alarm status. If you have any questions, feel free to contact the TMC.

Industry Alarm Notification: L601

From: Scott D. Parke

Date: 20130801 11:51

The following industry alarm changes were observed while control charting the most recent test reported to the Test Monitoring Center:

| Parameter | nsize | Zi Value | Zi Warning Limit | Zi Action Limit | Zi Alarm Status | Qi Value | Qi Warning Limit | Qi Action Limit | Qi Alarm Status |
|-----------|-------|----------|------------------|-----------------|-----------------|----------|------------------|-----------------|-----------------|
| VISI | 727 | 0.35 | ±0.709 | ±0.863 | | -0.687 | +0.636 | +0.800 | |
| PEN | 727 | 0.239 | ±0.709 | ±0.863 | | -1.167 | +0.636 | +0.800 | |
| TOL | 727 | 0.296 | ±0.709 | ±0.863 | | -0.434 | +0.636 | +0.800 | |
| ACV | 727 | -1.098 | ±0.709 | ±0.863 | Action | -1.025 | +0.636 | +0.800 | |
| ASL | 727 | -0.623 | ±0.709 | ±0.863 | | -0.161 | +0.636 | +0.800 | |

The industry plots, that can be viewed from the TMC Website on the internet, reflect the current industry alarm status. If you have any questions, feel free to contact the TMC.

Industry Alarm Notification: L601

From: Richard E. Grundza

Date: 20130806 14:32

The following industry alarm changes were observed while control charting the most recent test reported to the Test Monitoring Center:

| Parameter | nsize | Zi Value | Zi Warning Limit | Zi Action Limit | Zi Alarm Status | Qi Value | Qi Warning Limit | Qi Action Limit | Qi Alarm Status |
|-----------|-------|----------|------------------|-----------------|-----------------|----------|------------------|-----------------|-----------------|
| VISI | 728 | 0.233 | ±0.709 | ±0.863 | | -0.525 | +0.636 | +0.800 | |
| PEN | 728 | 0.271 | ±0.709 | ±0.863 | | -1.124 | +0.636 | +0.800 | |
| TOL | 728 | 0.396 | ±0.709 | ±0.863 | | -0.429 | +0.636 | +0.800 | |
| ACV | 728 | -1.115 | ±0.709 | ±0.863 | Action | -0.974 | +0.636 | +0.800 | |
| ASL | 728 | -0.429 | ±0.709 | ±0.863 | | 0.02 | +0.636 | +0.800 | |

The industry plots, that can be viewed from the TMC Website on the internet, reflect the current industry alarm status.

If you have any questions, feel free to contact the TMC.

Industry Alarm Notification: L601

From: Scott D. Parke

Date: 20130812 14:18

The following industry alarm changes were observed while control charting the most recent test reported to the Test Monitoring Center:

| Parameter | nsize | Zi Value | Zi Warning Limit | Zi Action Limit | Zi Alarm Status | Qi Value | Qi Warning Limit | Qi Action Limit | Qi Alarm Status |
|-----------|-------|----------|------------------|-----------------|-----------------|----------|------------------|-----------------|-----------------|
| VISI | 729 | 0.292 | ±0.709 | ±0.863 | | -0.426 | +0.636 | +0.800 | |
| PEN | 729 | 0.207 | ±0.709 | ±0.863 | | -1.025 | +0.636 | +0.800 | |
| TOL | 729 | 0.258 | ±0.709 | ±0.863 | | -0.275 | +0.636 | +0.800 | |
| ACV | 729 | -1.173 | ±0.709 | ±0.863 | Action | -0.982 | +0.636 | +0.800 | |
| ASL | 729 | -0.484 | ±0.709 | ±0.863 | | 0.104 | +0.636 | +0.800 | |

The industry plots, that can be viewed from the TMC Website on the internet, reflect the current industry alarm status.

If you have any questions, feel free to contact the TMC.

Attachment 4

Sierra Top Trak models allowed by procedure; section 8.10

822S-L-2-OV1-PV1-V1-A1 (on this model the PV1 is missing in the procedure 8.10)

822S-L-2-OV1-PV1-V4-A1

| | | |
|---------------|---|---|
| 822S | = | Parent number in stainless steel |
| L | = | Flow Body; Low flows |
| 2 | = | Inlet / outlet fitting; ¼ compression fitting |
| OV1 | = | Elastomers; Viton |
| PV1 | = | Input power; 12-15 VDC |
| V1 or V4 | = | Output signal; 0-5 VDC, linear or 4-20 mA, linear |
| A1 or SCR2700 | = | Gas flow rate; Special calibration requested to 1% accuracy |

Motion to correct the Sierra Top Trak model number in section 8.10 by adding PV1 to the first model and to add a foot note stating the new 822S models will have SCR2700 at the end of the model number and is the same as A1 on the older models.

D893 Comparison Across Labs

| | W | X | Y | Z | D893-12 |
|---------------------------------|--|---|---|---|--|
| Sample collection bottle | Nalgene | Glass | Glass | Nalgene | 8.2 If the original container is of opaque material, or if it is more than three-fourths full, transfer the entire sample to a clear glass bottle having a capacity at least one third greater than the volume of the sample, and transfer all traces of sediment from the original container to the bottle by violent agitation of portions of the sample in the original container. Heat the sample of used oil at $60 \pm 5^\circ\text{C}$ for 30 ± 1 min and agitate until all sediment is homogeneously suspended in the oil. After complete suspension of all sediment, strain the sample or a convenient aliquot through a 150-μm (No. 100) sieve to remove large contaminating particles. |
| Homogenization | Not heated. | Heated at 60C for 30 min; shaken by hand | Heated at 60C in shaker table for 30 min then shaken. | Heated at 60C for 30 min; shaken vigorously by hand then placed on shaker table for 3 min. | |
| Straining | Not strained. | Apx 40ml poured from sample jar through strainer into a plastic cup. | Sample drawn from sample jar into syringe. Millipore filter attached to syringe and sample is forced through filter until 10mg is collected in weighed centrifuge tube. | Sample drawn from sample jar into syringe. Millipore filter attached to syringe and sample is forced through filter into a sample cup until 25ml of strained sample is collected. | |
| Filling for solvent wash | Filled short, stoppered, shaken, then topped off with solvent. | Filled short, stoppered, shaken, then topped off with solvent. Stoppers left in for centrifuging. (permissible by procedure Note 3.) | Filled short, stoppered, shaken, then topped off with solvent. | Filled short, stoppered, shaken, then topped off with solvent. | 9.1.1 Fill short. Stopper the tube and shake until the mixture is homogeneous. 9.1.2 Remove the stopper, wash all insolubles from the stopper into the centrifuge tube. NOTE 3-...some laboratories have found it suitable to use ...hermetically sealed centrifuge cups with screw caps and seals. |

| | W | X | Y | Z | D893-12 |
|---------------------------|-------------------------------|-------------------------------|-------------------------------|--|--|
| Centrifuging | Tubes arranged symmetrically. | Tubes arranged symmetrically. | Tubes arranged symmetrically. | Each of two tubes placed in balance and additional solvent added to the lighter tube until tubes balance. Final volume: 53~57ml. | 9.1.2 ... Arrange the tubes symmetrically about the centrifuge to minimize imbalance. In the event of an odd number of tubes, using water, fill a dummy tube to the same mass as the sample to balance the odd tube... |
| Drying | Dried uncovered. | Dried uncovered. | Dried uncovered. | Tubes covered with perforated aluminum foil for drying. | 9.1.6 With relatively heavy precipitates there can be some spattering if the tube is placed directly from the centrifuge into the oven. In such cases, the precipitate may be partially dried by weathering at room or slightly higher temperatures before being placed in the oven. |
| Calculating result | 11.1 equation. | 11.1 equation. | 11.1 equation. | Insolubles, % = $(B - A) \div (C - A) \times 100$ where: C = mass of tube and initial sample | 11.1 Calculate the percentage of insolubles in the used oil as follows: Insolubles, % = $10(B - A)$ where: A = mass of clean, dried, centrifuge tube, g B = mass of dried insolubles and centrifuge tube, g. |