

# IR SCOTE Test Procedure Form 1

Method   **METHOD**  
Version   **IR VERSION 20040116 BETA**  
Conducted For  
**TSTSPON1**  
**TSTSPON2**

|   |   |                  |  |                    |  |   |  |
|---|---|------------------|--|--------------------|--|---|--|
| <b>LABVALID</b>   | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>V = Valid</b></td> <td style="width: 50%;"></td> </tr> <tr> <td><b>I = Invalid</b></td> <td></td> </tr> <tr> <td colspan="2"><b>N = Results Can Not Be Interpreted As Representative of Oil Performance (Non-Reference Oil) and Shall Not Be Used For Multiple Test Acceptance Criteria.</b></td> </tr> </table> | <b>V = Valid</b> |  | <b>I = Invalid</b> |  | <b>N = Results Can Not Be Interpreted As Representative of Oil Performance (Non-Reference Oil) and Shall Not Be Used For Multiple Test Acceptance Criteria.</b> |  |
| <b>V = Valid</b>  |   |                  |  |                    |  |   |  |
| <b>I = Invalid</b>  |   |                  |  |                    |  |   |  |
| <b>N = Results Can Not Be Interpreted As Representative of Oil Performance (Non-Reference Oil) and Shall Not Be Used For Multiple Test Acceptance Criteria.</b> |   |                  |  |                    |  |   |  |

|                                |  |                                |  |                             |  |
|--------------------------------|--|--------------------------------|--|-----------------------------|--|
| <b>TSTOIL</b>                  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>RO = Reference Oil Test</b></td> <td style="width: 50%;"></td> </tr> <tr> <td><b>NR = All Other Tests</b></td> <td></td> </tr> </table> | <b>RO = Reference Oil Test</b> |  | <b>NR = All Other Tests</b> |  |
| <b>RO = Reference Oil Test</b> |  |                                |  |                             |  |
| <b>NR = All Other Tests</b>    |  |                                |  |                             |  |

|                 |   |
|-----------------|---|
| <b>CALDFLAG</b> | <b>Was This Test Run Under a Valid Calibration? (Y/N)</b> |
|-----------------|---|

|                 |   |
|-----------------|---|
| <b>LABQIA</b>   | <b>Lab Is Currently Operating Under An LTMS Precision Alarm *</b>   |
| <b>STANDQIA</b> | <b>Stand Is Currently Operating Under An LTMS Precision Alarm *</b> |

\* Check box only if YES

| Test Number         |          |                        |          |
|---------------------|----------|------------------------|----------|
| Test Stand          | STAND    | Engine Run             | ENRUN    |
| EOT Time            | EOTTIME  | EOT Date               | DTCOMP   |
| Oil Code            | OILCODE  | Formulation/Stand FORM |          |
| Alternate Codes     | ALTCODE1 | ALTCODE2               | ALTCODE3 |
| SAE Viscosity Grade | SAEVIISC |                        |          |

In my opinion this test OPVALID    been conducted in accordance with the Test Procedure (Research Report) and the appropriate amendments through the information letter system. The remarks included in the report describe the anomalies associated with this test.

SUBMITTED BY: \_\_\_\_\_

SUBLAB  
Testing Laboratory

SUBSIGIM  
Signature

SUBNAME  
Typed Name

SUBTITLE  
Title

**IR SCOTE Test Procedure**  
**Form 2**  
**Test Report Summary**

|                        |          |            |          |        |        |        |
|------------------------|----------|------------|----------|--------|--------|--------|
| Lab LAB                | EOT Date | DTCOMP     | End Time | EOTIME | Method | METHOD |
| Stand STAND            | STAND    | Run Number | ENRUN    |        |        |        |
| Formulation/Stand Code | FORM     |            |          |        |        |        |
| Oilcode                | OILCODE  |            |          |        |        |        |

|                  |          |            |         |                      |         |             |
|------------------|----------|------------|---------|----------------------|---------|-------------|
| Start Date       | DTSTRT   | Start Time | STRTIME | Total Test Length    | TESTLEN | TMC Oil IND |
| Lab Internal Oil | LABOCODE |            |         | Engine Serial Number | ENGSN   |             |

|   | CORRECTION EFFECTIVE DATE | WD    | TGC    | TLC    | BOTOC g/h | EOTOC g/h | Oil Con. Delta EOTOC-BOTOC g/h |
|---|---------------------------|-------|--------|--------|-----------|-----------|--------------------------------|
| Unadjusted Lab Rating                         |                           | WD    | TGC    | TLC    | BOTOC     | EOTOC     | DOC                            |
| Industry Correction (If Any)                  | DATECF                    | WDCE  | TGCCF  | TLCCE  | BOTOC     | EOTOC     | DOCCF                          |
| Subtotal                                      |                           | WDCOR | TGCCOR | TLCOR  | BOTOC     | EOTOC     | DOCCOR                         |
| Lab Severity <sup>B</sup> Adjustment (If Any) | DATESA                    | WDSA  | TGCSA  | TLCSA  | BOTOC     | EOTOC     | DOCSA                          |
| Total   |                           | WDFNL | TGCFNL | TLCFNL | BOTOC     | EOTOC     | DOCFNL                         |

|                                      | EFFECTIVE DATE | WD   | TGC   | TLC   | BOTOC g/h | EOTOC g/h | Oil Con. Delta EOTOC-BOTOC g/h |
|--------------------------------------|----------------|------|-------|-------|-----------|-----------|--------------------------------|
| Test Target Mean <sup>A</sup>        | EFFDATE        | WDM  | TGCM  | TLCM  | BOTOC     | EOTOC     | DOCM                           |
| Test Target Std <sup>A</sup>         | EFFDATE        | WDS  | TGCS  | TLCS  | BOTOC     | EOTOC     | DOCS                           |
| API CATEGORY <sup>B</sup> Pass Limit | DTCEFF         | WDPL | TGCPL | TLCPL | BOTOC     | EOTOC     | DOCP                           |

|                 |             |      |       |       |  |  |  |
|-----------------|-------------|------|-------|-------|--|--|--|
| Referee Ratings | Referee Lab | WD   | TGC   | TLC   |  |  |  |
|                 | RRLAB       | RRWD | RRTGC | RRTLC |  |  |  |

|                                  | Rings    |          |          | Piston   |          | Cylinder Liner |
|----------------------------------|----------|----------|----------|----------|----------|----------------|
|                                  | Top      | Inter. 1 | Oil      | Crown    | Skirt    |                |
| Ring Loss of Side Clearance (mm) | LSCTOP   | LSCINT1  | LSCoil   |          |          |                |
| Ring End Gap Increase (mm)       | RINGGTI  | RINGGII  | RINGGOI  |          |          |                |
| Is the Ring Stuck?               | STUCKTOP | STUCKINI | STUCKOIL |          |          |                |
| Scuffed Area %                   | SCUFFTOP | SCUFFINI | SCUFFOIL | SCUFFCRO | SCUFFSKR | SCUFFLIN       |
| Average Wear Step (µm)           |          |          |          |          |          | AWEARST        |
| % Bore Polish                    |          |          |          |          |          | BOREPOL        |

Notes: <sup>A</sup>Reference oil tests or as requested by test sponsor

<sup>B</sup>Non-reference oil tests only

**IR SCOTE Test Procedure**  
**Form 3**  
**Operational Summary**

| Lab                 | LAB                     | EOT Date                   | DTCOMP  | End Time             | EOTTIME           | Method                        | METHOD           |                               |
|---------------------|-------------------------|----------------------------|---------|----------------------|-------------------|-------------------------------|------------------|-------------------------------|
| Stand               | STAND                   | Formulation/Stand Code     | FORM    | Run Number           | ENRUN             |                               |                  |                               |
| Oilcode             |                         | OILCODE                    |         |                      |                   |                               |                  |                               |
| Operating Parameter | Quality Index Threshold | EOT Quality Index          | Units   | Process              |                   | Total Data Points             |                  |                               |
|                     |                         |                            |         | Target               | Average           | Samples <sup>A</sup>          | BQD <sup>B</sup> | Over/Under Range <sup>C</sup> |
| Engine Speed        | 0.00                    | ORPM                       | r/min   | 1800                 | ARPM              | NRPM                          | BRPM             | ORPM                          |
| Fuel Flow           | 0.00                    | OFELO                      | g/min   | 240                  | AFELO             | NFLO                          | BFLO             | OFLO                          |
| Humidity            | 0.00                    | OHUMID                     | g/kg    | 17.8                 | AHUMID            | NHUMID                        | BHUMID           | OHUMID                        |
| Coolant Flow        | 0.00                    | OCOLFL                     | L/min   | 75                   | ACOLFL            | NCOLFL                        | BCOLFI           | OCOLFLO                       |
| Temperature         |                         |                            |         |                      |                   |                               |                  |                               |
| Coolant Out         | 0.00                    | OCOLOU                     | °C      | 105                  | ACOLOU            | NCOLOU                        | BCOLOI           | OCOLOUT                       |
| Oil to Manifold     | 0.00                    | OOMANT                     | °C      | 120                  | AOMANT            | NOMANT                        | BOMAN            | OOMANTM                       |
| Inlet Air Manifold  | 0.00                    | OINAIRT                    | °C      | 60                   | AINAIRT           | NINAIRT                       | BINAIR           | OINAIRT                       |
| Fuel into Head      | 0.00                    | OFUELTH                    | °C      | 42                   | AFUELTH           | NFUELTH                       | BFUELTH          | OFUELTHMP                     |
| Pressures           |                         |                            |         |                      |                   |                               |                  |                               |
| Oil to Manifold     | 0.00                    | OOMANF                     | kPa     | 415                  | AOMAN             | NOMANF                        | BOMAN            | OOMANPR                       |
| Inlet Air (Abs.)    | 0.00                    | OINAIRP                    | kPa     | 292                  | AINAIRP           | NINAIRP                       | BINAIR           | OINAIRP                       |
| Fuel From Head      | 0.00                    | OFUELPH                    | kPa     | 275                  | AFUELPH           | NFUELPH                       | BFUELPH          | OFUELPHR                      |
| Exhaust (Abs.)      | 0.00                    | OEBBP                      | kPa     | 252                  | AEBBP             | NEBP                          | BEBP             | OEBBP                         |
| Operating Parameter | Units                   | Typical Range <sup>D</sup> | Average | Samples <sup>A</sup> | Total Data Points |                               |                  |                               |
|                     |                         |                            |         |                      | BQD <sup>B</sup>  | Over/Under Range <sup>C</sup> |                  |                               |
| Intake Air Flow     | kg/h                    | 360-410                    | AAIRFL  |                      |                   |                               |                  |                               |
| Power               | kW                      | 65-70                      | APWR    | NPWR                 | BPWR              | OPWR                          |                  |                               |
| Torque              | Nm                      | 330-350                    | ATORQI  | NTORQI               | BTORQI            | OTORQI                        |                  |                               |
| Blowby              | L/min                   | 20-56                      | ABLOBY  | NBLOBY               | BLOBY             | OBLOBY                        |                  |                               |
| Temperature         |                         |                            |         |                      |                   |                               |                  |                               |
| Coolant In          | °C                      | 97-101                     | ACOLIN  | NCOLIN               | BCOLIN            | OCOLIN                        |                  |                               |
| Coolant Delta T     | °C                      | 4-8                        | ACOLDT  | NCOLDT               | BCOLD             | OCOLDT                        |                  |                               |
| Oil Cooler In       | °C                      | 120-124                    | AOCOOI  | NOCOOI               | BOCOO             | OCOOOLIN                      |                  |                               |
| Heating Oil         | °C                      | 165 max.                   | AHEATC  | NHEATC               | BHEATC            | OHEATOIL                      |                  |                               |
| Exhaust             | °C                      | 590-620                    | AEXHTT  | NEXHTM               | BEXHTT            | OEXHTMP                       |                  |                               |
| Pressures           |                         |                            |         |                      |                   |                               |                  |                               |
| Crankcase           | kPa                     | 0.09-0.3                   | ACCV    | NCCV                 | BCCV              | OCV                           |                  |                               |
| Coolant to Jug      | kPa                     | 64-92                      | ACOLPF  | NCOLPR               | BCOLPI            | OCOLPR                        |                  |                               |

<sup>A</sup> Total number of data points taken as determined from test length and procedural specified sampling rate.

<sup>B</sup> Number of Bad Quality Data points not used in the calculation of the statistical measures.

<sup>C</sup> Number of points clipped by over/under range limits of the statistical measures.

<sup>D</sup> Gathered from IQ Matrix Test data.

**IR SCOTE Test Procedure  
Form 4  
Assembly Measurements And Part Record**

|                             |                  |                  |                 |
|-----------------------------|------------------|------------------|-----------------|
| Lab LAB                     | EOT Date DTCOMP  | End Time EOTTIME | Method METHODOD |
| Stand STAND                 | Run Number ENRUN |                  |                 |
| Formulation/Stand Code FORM |                  |                  |                 |
| Oilcode OILCODE             |                  |                  |                 |

| Assembly Measurements and Parts Record |  |  |          |
|--|--|--|----------|
| Injector Setting ( GO / NO-GO )        |  |  | INJSET   |
| Was Timing Initialized? (YES/NO)       |  |  | TINIT    |
| Piston/Head Clearance mm               |  |  | PISTONCL |
| Cam Gear Backlash mm                   |  |  | CAMLASH  |
| Desired Fuel Timing °BTC               |  |  | FUELTIM  |
| Intake Valve Open °ATC                 |  |  | INVALOPN |
| Injector Plunger Lift mm @ 72°         |  |  | PLUNLIFT |
| Intake Valve Lift mm @ 456°            |  |  | INLIFT   |
| Exhaust Valve Lift mm @ 247°           |  |  | EXLIFT   |

|                    | Part Number | Serial Number | Date Code | Inspection Code |
|--------------------|-------------|---------------|-----------|-----------------|
| Liner              | LINERPN     | LINERSN       | LINERDC   |                 |
| Top Ring           | TOPPN       | TOPSN         |           |                 |
| Intermediate Ring  | INTPN       | INTSN         |           |                 |
| Oil Ring           | OILPN       | OILSN         |           |                 |
| Piston Crown       | CROWPN      | CROWNSN       | CROWNDC   | CROWNIC         |
| Piston Skirt       | SKIRTPN     | SKIRTSN       |           |                 |
| Fuel Injector      | NOZZLEPN    | NOZZLESN      |           |                 |
| ECM EPROM          | ECMPN       |               | ECMDC     |                 |
| Piston Cooling Jet | PTUBEPN     | PTUBESN       |           |                 |

<sup>A</sup> On liner O.D.  
<sup>B</sup> On liner O.D. (NNNN)  
<sup>C</sup> On box label  
<sup>D</sup> On top of piston

<sup>E</sup> On paper envelope containing the ring  
<sup>F</sup> Number below "E" located on piston top  
<sup>G</sup> Number below "E" located on piston top

<sup>H</sup> On bottom surface skirt  
<sup>I</sup> On bottom surface under pin bore  
<sup>J</sup> On top surface of plunger  
<sup>K</sup> On top surface of plunger – 6 digits  
<sup>L</sup> On ECAT software

**1R SCOTE Test Procedure  
Form 5  
Piston Rating Summary**

|   |                     |                         |                     |                    |                   |
|---|---------------------|-------------------------|---------------------|--------------------|-------------------|
| Lab LAB                                 | EOT Date DTCOMP     | End Time EOTTIME        | Stand STAND         | Run ENRUN          | Method METHOD     |
| Formulation/Stand Code FORM             |                     |                         | Oilcode OILCODE     |                    |                   |
| Test Fuel TESTFUEL                      | Fuel Batch FUELBTID | Date Rated DTRATE       | Rater Initial RINIT | Verified By VRINIT |                   |
| <b>Last Stand Reference Information</b> |                     | Date Completed LRDTCOMP | Stand STAND         | Run LRENRUN        | TMC Oil Code LIND |
|   |                     | WD                      | TGC                 | TLC                | BOTOC<br>g/h      |
| Last Reference on this Stand            |                     | LRWD                    | LRTGC               | LRTLTC             | LRBOTOC           |
| Industry Average                        |                     | LRAWD                   | LRATGC              | LRATLC             | LRABTOC           |
| Industry Standard Deviation             |                     | LRSWD                   | LRSTGC              | LRSTLC             | LRSBTOC           |
|   |                     |                         |                     |                    | EOTOC<br>g/h      |
|   |                     |                         |                     |                    | LREOTOC           |
|   |                     |                         |                     |                    | LRAETOC           |
|   |                     |                         |                     |                    | LRSETOC           |

**Total Piston Ratings Summary**

|  | Grooves      |         |                     |         | Lands  |         |                   |         | Deposit Factor | Groove |                   | Lands  |         |        |                                | Oil Cooling |        | Under Crown |         |        |
|--|--------------|---------|---------------------|---------|--------|---------|-------------------|---------|----------------|--------|-------------------|--------|---------|--------|--------------------------------|-------------|--------|-------------|---------|--------|
|  | No. 1        |         | No. 2               |         | No. 1  |         | No. 2             |         |                | No. 3  |                   | No. 3  |         | No. 4  |                                | A,%         | Demeit | A,%         | Demerit |        |
|  | A,%          | Demerit | A,%                 | Demerit | A,%    | Demerit | A,%               | Demerit |                | A,%    | Demerit           | A,%    | Demerit |        |                                |             |        |             |         |        |
| <b>C<br/>a<br/>r<br/>b<br/>o<br/>n</b>                   | HC - 1.0     | G1HCA   | G1HCD               | G2HCA   | G2HCD  | L1HCA   | L1HCD             | L2HCA   | L2HCD          | 7.5    | G3HCA             | G3HCD  | L3HCA   | L3HCD  | L4HCA                          | L4HCD       |        |             |         |        |
|  | MC - 0.5     | G1MCA   | G1MCD               |         |        |         |                   |         |                |        | G3MCA             | G3MCD  |         |        |                                |             |        |             |         |        |
|  | LC - .25     | G1LCA   | G1LCD               | G2LCA   | G2LCD  | L1LCA   | L1LCD             | L2LCA   | L2LCD          |        | G3LCA             | G3LCD  | L3LCA   | L3LCD  | L4LCA                          | L4LCD       | OG1CA  | OG1CD       | UC1CA   | UC1CD  |
|  | <b>Total</b> | G1ACTC  | G1DCTC              | G2ACTC  | G2DCTC | L1ACTC  | L1DCTC            | L2ACTC  | L2DCTC         |        | G3ACTC            | G3DCTC | L3ACTC  | L3DCTC | L4ACTC                         | L4DCTC      | OGACTC | OGDCTC      | UCACTC  | UCDCTC |
| <b>V<br/>a<br/>r<br/>i<br/>a<br/>t<br/>i<br/>o<br/>n</b> | 8 - 9        | G1V9A   | G1V9D               | G2V9A   | G2V9D  | L1V9A   | L1V9D             | L2V9A   | L2V9D          | 7.5    | G3V75A            | G3V75D | L3V75A  | L3V75E | L4V75A                         | L4V75D      | OGV75A | OGV75D      | UCV75A  | UCV75D |
|  | 7 - 7.9      | G1V8A   | G1V8D               | G2V8A   | G2V8D  | L1V8A   | L1V8D             | L2V8A   | L2V8D          |        |                   |        |         |        |                                |             |        |             |         |        |
|  | 6 - 6.9      | G1V7A   | G1V7D               | G2V7A   | G2V7D  | L1V7A   | L1V7D             | L2V7A   | L2V7D          |        |                   |        |         |        |                                |             |        |             |         |        |
|  | 5 - 5.9      | G1V6A   | G1V6D               | G2V6A   | G2V6D  | L1V6A   | L1V6D             | L2V6A   | L2V6D          |        |                   |        |         |        |                                |             |        |             |         |        |
|  | 4 - 4.9      | G1V5A   | G1V5D               | G2V5A   | G2V5D  | L1V5A   | L1V5D             | L2V5A   | L2V5D          |        |                   |        |         |        |                                |             |        |             |         |        |
|  | 3 - 3.9      | G1V4A   | G1V4D               | G2V4A   | G2V4D  | L1V4A   | L1V4D             | L2V4A   | L2V4D          |        |                   |        |         |        |                                |             |        |             |         |        |
|  | 2 - 2.9      | G1V3A   | G1V3D               | G2V3A   | G2V3D  | L1V3A   | L1V3D             | L2V3A   | L2V3D          |        |                   |        |         |        |                                |             |        |             |         |        |
|  | 1 - 1.9      | G1V2A   | G1V2D               | G2V2A   | G2V2D  | L1V2A   | L1V2D             | L2V2A   | L2V2D          |        |                   |        |         |        |                                |             |        |             |         |        |
|  | >0 - 0.9     | G1V1A   | G1V1D               | G2V1A   | G2V1D  | L1V1A   | L1V1D             | L2V1A   | L2V1D          |        |                   |        |         |        |                                |             |        |             |         |        |
| Clean  | G1VCL        | 0       | G2VCL               | 0       | L1VCLN | 0       | L2VCLN            | 0       | Clean          | G3VCLN | 0                 | L3VCLN | 0       | L4VCLN | 0                              | OGVCLN      | 0      | UCVCLN      | 0       |        |
| <b>Total</b>   | G1AVT        | G1DVTC  | G2AVT               | G2DVTC  | L1AVTC | L1DVTC  | L2AVTC            | L2DVTC  | G3AVTC         | G3DVTC | L3AVTC            | L3DVTC | L4AVTC  | L4DVTC | OGAVTC                         | OGDVTC      | UCAVTC | UCDVTC      |         |        |
| Rating   | G1UWD        |         | G2UWD               |         | L1UWD  |         | L2UWD             |         | G3UWD          |        | L3UWD             |        | L4UWD   |        | OGUWD                          |             | UCUWD  |             |         |        |
| Location Factor  | 2            |         | 3                   |         | 1      |         | 3                 |         | 20             |        | 20                |        | 60      |        | 0.5                            |             | 1      |             |         |        |
| Industry Rating  | G1WD         |         | G2WD                |         | L1WD   |         | L2WD              |         | G3WD           |        | L3WD              |        | L4WD    |        | OGWD                           |             | UCWD   |             |         |        |
| <b>WD:</b>   | WD           |         | <b>TLHC %:</b> TLHC |         |        |         | <b>TGF %:</b> TGF |         |                |        | <b>IGF %:</b> IGF |        |         |        | <b>TLFC %:</b> TLFC            |             |        |             |         |        |
| <b>Unweighted:</b>                                       | UWD          |         | <b>TLC:</b> TLC     |         |        |         | <b>TGC:</b> TGC   |         |                |        | <b>IGC:</b> IGC   |        |         |        | <b>Under Crown Carbon:</b> UCC |             |        |             |         |        |

**IR SCOTE Test Procedure  
Form 5A**

|                             |       |            |        |          |         |        |        |
|-----------------------------|-------|------------|--------|----------|---------|--------|--------|
| Lab                         | LAB   | EOT Date   | DTCOMP | End Time | EOTTIME | Method | METHOD |
| Stand                       | STAND | Run Number | ENRUN  |          |         |        |        |
| Formulation/Stand Code FORM |       |            |        |          |         |        |        |
| Oilcode OILCODE             |       |            |        |          |         |        |        |

RATEWSIM

Refer to Appendix A14 for an example of Piston Ring Worksheet.

**1R SCOTE Test Procedure**  
**Form 6**  
**Supplemental Piston Deposits (Groove Sides and Rings)**

|   |         |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
|---|---------|------------|--------|----------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|
| Lab   | LAB     | EOT Date   | DTCOMP | End Time | EOTTIME | Method  | METHOD  |         |         |         |         |         |        |        |         |
| Stand   | STAND   | Run Number |        |          |         | ENRUN   |         |         |         |         |         |         |        |        |         |
| Formulation/Stand Code                            |         |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
| FORM  |         |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
| Oilcode   |         |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
| OILCODE   |         |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
| Deposit Type                                      |         | Carbon     |        |          | Varnish |         |         |         |         |         |         |         |        |        |         |
|   |         | HC         | MC     | LC       | 8 - 9   | 7 - 7.9 | 6 - 6.9 | 5 - 5.9 | 4 - 4.9 | 3 - 3.9 | 2 - 2.9 | 1 - 1.9 | >0 -   | CLEAN  |         |
| Groove<br>Top<br>and<br>Bottom                    | 1       | T          | 31THCA | 31TMCA   | 31TLCA  | G1T9A   | G1T8A   | G1T7A   | G1T6A   | G1T5A   | G1T4A   | G1T3A   | G1T2A  | G1T1A  | 31TCLNA |
|   |         | B          | 31BHCA | 31BMCA   | 31BLCA  | G1B9A   | G1B8A   | G1B7A   | G1B6A   | G1B5A   | G1B4A   | G1B3A   | G1B2A  | G1B1A  | 31BCLNA |
|   | 2       | T          | 32THCA | 32TMCA   | 32TLCA  | G2T9A   | G2T8A   | G2T7A   | G2T6A   | G2T5A   | G2T4A   | G2T3A   | G2T2A  | G2T1A  | 32TCLNA |
|   |         | B          | 32BHCA | 32BMCA   | 32BLCA  | G2B9A   | G2B8A   | G2B7A   | G2B6A   | G2B5A   | G2B4A   | G2B3A   | G2B2A  | G2B1A  | 32BCLNA |
|   | 3       | T          | 33THCA | 33TMCA   | 33TLCA  | G3T9A   | G3T8A   | G3T7A   | G3T6A   | G3T5A   | G3T4A   | G3T3A   | G3T2A  | G3T1A  | 33TCLNA |
|   |         | B          | 33BHCA | 33BMCA   | 33BLCA  | G3B9A   | G3B8A   | G3B7A   | G3B6A   | G3B5A   | G3B4A   | G3B3A   | G3B2A  | G3B1A  | 33BCLNA |
| Top Bottom and<br>Back of<br>Rings                | 1       | T          | 11THCA | 11TMCA   | 11TLCA  | R1T9A   | R1T8A   | R1T7A   | R1T6A   | R1T5A   | R1T4A   | R1T3A   | R1T2A  | R1T1A  | 11TCLNA |
|   |         | B          | 11BHCA | 11BMCA   | 11BLCA  | R1B9A   | R1B8A   | R1B7A   | R1B6A   | R1B5A   | R1B4A   | R1B3A   | R1B2A  | R1B1A  | 11BCLNA |
|   |         | BK         | 11BKHC | 11BKMC   | 11BKLC  | R1BK9A  | R1BK8A  | R1BK7A  | R1BK6A  | R1BK5A  | R1BK4A  | R1BK3A  | R1BK2A | R1BK1A | 11BKCLN |
|   | 2       | T          | 12THCA | 12TMCA   | 12TLCA  | R2T9A   | R2T8A   | R2T7A   | R2T6A   | R2T4A   | R2T5A   | R2T3A   | R2T2A  | R2T1A  | 12TCLNA |
|   |         | B          | 12BHCA | 12BMCA   | 12BLCA  | R2B9A   | R2B8A   | R2B7A   | R2B6A   | R2B5A   | R2B4A   | R2B3A   | R2B2A  | R2B1A  | 12BCLNA |
|   |         | BK         | 12BKHC | 12BKMC   | 12BKLC  | R2BK9A  | R2BK8A  | R2BK7A  | R2BK6A  | R2BK5A  | R2BK4A  | R2BK3A  | R2BK2A | R2BK1A | 12BKCLN |
|   | 3       | T          | 13THCA | 13TMCA   | 13TLCA  | R3T9A   | R3T8A   | R3T7A   | R3T6A   | R3T5A   | R3T4A   | R3T3A   | R3T2A  | R3T1A  | 13TCLNA |
|   |         | B          | 13BHCA | 13BMCA   | 13BLCA  | R3B9A   | R3B8A   | R3B7A   | R3B6A   | R3B5A   | R3B4A   | R3B3A   | R3B2A  | R3B1A  | 13BCLNA |
|   |         | BK         | 13BKHC | 13BKMC   | 13BKLC  | R3BK9A  | R3BK8A  | R3BK7A  | R3BK6A  | R3BK5A  | R3BK4A  | R3BK3A  | R3BK2A | R3BK1A | 13BKCLN |
| <b>Additional Deposit &amp; Condition Ratings</b> |         |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
| Piston Crown                                      | CROWNAD |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
| Piston Skirt                                      | SKIRTAD |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
| Rings   | RINGSAD |            |        |          |         |         |         |         |         |         |         |         |        |        |         |
| Liner   | LINERAD |            |        |          |         |         |         |         |         |         |         |         |        |        |         |

**1R SCOTE Test Procedure**

**Form 6A**

**Referee Rating**

|                                   |       |          |        |               |        |        |            |        |  |       |        |  |
|-----------------------------------|-------|----------|--------|---------------|--------|--------|------------|--------|--|-------|--------|--|
| <b>Test Identification</b>        |       |          |        |               |        |        |            |        |  |       |        |  |
| Lab                               | LAB   | EOT Date | DTCOMP | End Time      | EOTIME | Method | METHOD     |        |  |       |        |  |
| Stand                             | STAND |          |        | Run           | ENRUN  |        |            |        |  |       |        |  |
| Formulation/Stand Code FORM       |       |          |        |               |        |        |            |        |  |       |        |  |
| Oilcode OILCODE                   |       |          |        |               |        |        |            |        |  |       |        |  |
| <b>Referee Rating Information</b> |       |          |        |               |        |        |            |        |  |       |        |  |
| Company                           | RRLAB |          |        | Rating Number | RRNO   |        | Date Rated | RRDATE |  | Rater | RRINIT |  |

| <b>Total Piston Ratings Summary</b> |         |        |                |        |         |        |               |        |        |         |               |         |        |         |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
|-------------------------------------|---------|--------|----------------|--------|---------|--------|---------------|--------|--------|---------|---------------|---------|--------|---------|---------------------------|---------|-------------------|---------|--------|--------|------|--|--|----------------|--|----------------|--|
| C<br>A<br>R<br>B<br>O<br>N          | Grooves |        |                |        |         |        |               |        | Lands  |         |               |         |        |         |                           |         | Deposit<br>Factor | Groove  |        | Lands  |      |  |  | Oil<br>Cooling |  | Under<br>Crown |  |
|                                     | No. 1   |        | No. 2          |        | No. 1   |        | No. 2         |        | No. 3  |         | No. 3         |         | No. 4  |         | A,%                       | DEM.    |                   | A,%     | DEM.   | A,%    | DEM. |  |  |                |  |                |  |
|                                     | A,%     | DEM.   | A,%            | DEM.   | A,%     | DEM.   | A,%           | DEM.   | A,%    | DEM.    | A,%           | DEM.    | A,%    | DEM.    |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
| HC - 1.0                            | RRG1H   | RRG1HC | RRG2H          | RRG2HC | RRL1H   | RRL1HC | RRL2H         | RRL2HC |        | RRG3HC  | RRG3HC        | RRL3H   | RRL3HC | RRL4H   | RRL4HC                    |         |                   |         |        |        |      |  |  |                |  |                |  |
| MC - 0.5                            | RRG1M   | RRG1M  |                |        |         |        |               |        |        | RRG3M   | RRG3M         |         |        |         |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
| LC - .25                            | RRG1L   | RRG1LC | RRG2L          | RRG2LC | RRL1L   | RRL1LC | RRL2L         | RRL2LC |        | RRG3L   | RRG3L         | RRL3L   | RRL3LC | RRL4L   | RRL4LC                    | RRG3ACT | RRG3DC            | RL3AC   | RL3DCT |        |      |  |  |                |  |                |  |
| TOTAL                               | RG1A    | RG1DC  | RG2AC          | RG2DC  | RL1AC   | RL1DCT | RL2AC         | RL2DCT |        | RG3ACT  | RG3DC         | RL3AC   | RL3DCT | RL4AC   | RL4DCT                    | ROGAC   | ROGDC             | RUCAC   | RUCDCT |        |      |  |  |                |  |                |  |
| V<br>A<br>R<br>N<br>I<br>S<br>H     | 8 - 9   | RRG1V  | RRG1V9         | RRG2V  | RRG2V9  | RRL1V  | RRL1V9        | RRL2V  | RRL2V9 | 7.5     |               |         |        |         |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
|                                     | 7 - 7.9 | RRG1V7 | RRG1V8         | RRG2V  | RRG2V8  | RRL1V  | RRL1V8        | RRL2V  | RRL2V8 |         | RRG3V7        | RRG3V   | RRL3V  | RRL3V7  | RRL4V                     | RRL4V75 | RROGV             | RRUCV   | RROGV  | RRUCV7 |      |  |  |                |  |                |  |
|                                     | 6 - 6.9 | RRG1V6 | RRG1V7         | RRG2V  | RRG2V7  | RRL1V  | RRL1V7        | RRL2V  | RRL2V7 |         |               |         |        |         |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
|                                     | 5 - 5.9 | RRG1V5 | RRG1V6         | RRG2V  | RRG2V6  | RRL1V  | RRL1V6        | RRL2V  | RRL2V6 |         |               |         |        |         |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
|                                     | 4 - 4.9 | RRG1V4 | RRG1V5         | RRG2V  | RRG2V5  | RRL1V  | RRL1V5        | RRL2V  | RRL2V5 |         |               |         |        |         |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
|                                     | 3 - 3.9 | RRG1V3 | RRG1V4         | RRG2V  | RRG2V4  | RRL1V  | RRL1V4        | RRL2V  | RRL2V4 |         | RRG3V4        | RRG3V   | RRL3V  | RRL3V4  | RRL4V                     | RRL4V45 | RROGV             | RROGV   | RRUCV  | RRUCV4 |      |  |  |                |  |                |  |
|                                     | 2 - 2.9 | RRG1V2 | RRG1V3         | RRG2V  | RRG2V3  | RRL1V  | RRL1V3        | RRL2V  | RRL2V3 |         |               |         |        |         |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
|                                     | 1 - 1.9 | RRG1V1 | RRG1V2         | RRG2V  | RRG2V2  | RRL1V  | RRL1V2        | RRL2V  | RRL2V2 |         |               |         |        |         |                           |         |                   |         |        |        |      |  |  |                |  |                |  |
| >0 - 0.9                            | RRG1V   | RRG1V1 | RRG2V          | RRG2V1 | RRL1V   | RRL1V1 | RRL2V         | RRL2V1 | 1.5    | RRG3V1  | RRG3V         | RRL3V   | RRL3V1 | RRL4V   | RRL4V15                   | RROGV   | RROGV             | RRUCV1  | RRUCV1 |        |      |  |  |                |  |                |  |
| Clean                               | RRG1V   | 0      | RRG2V          | 0      | RRL1V   | 0      | RRL2V         | 0      | Clean  | RRG3VC  | 0             | RRL3V   | 0      | RRL4V   | 0                         | RROGV   | 0                 | RRUCV   | 0      |        |      |  |  |                |  |                |  |
| Total                               | RG1AV   | RG1DV  | RG2AV          | RG2DV  | RL1AV   | RL1DV  | RL2AV         | RL2DV  |        | RG3AV   | RG3DV         | RL3AV   | RL3DVT | RL4AV   | RL4DVT                    | ROGAV   | ROGDV             | RUCAV   | RUCDVT |        |      |  |  |                |  |                |  |
| Rating                              | RRG1UWD |        | RRG2UWD        |        | RRL1UWD |        | RRL2UWD       |        |        | RRG3UWD |               | RRL3UWD |        | RRL4UWD |                           | RROGUWD |                   | RRUCUWD |        |        |      |  |  |                |  |                |  |
| Location Factor                     | 2       |        | 3              |        | 1       |        | 3             |        |        | 20      |               | 20      |        | 60      |                           | 0.5     |                   | 1       |        |        |      |  |  |                |  |                |  |
| Industry Rating                     | RRG1WD  |        | RRG2WD         |        | RRL1WD  |        | RRL2WD        |        |        | RRG3WD  |               | RRL3WD  |        | RRL4WD  |                           | RROGWD  |                   | RRUCWD  |        |        |      |  |  |                |  |                |  |
| <b>WD:</b>                          | RRWD    |        | <b>TLHC %:</b> |        | RRTLHC  |        | <b>TGF %:</b> |        | RRTGF  |         | <b>IGF %:</b> |         | RRIGF  |         | <b>TLFC %:</b>            |         | RRTLFC            |         |        |        |      |  |  |                |  |                |  |
| <b>Unweighted:</b>                  | RRUWD   |        | <b>TLC:</b>    |        | RRTLTC  |        | <b>TGC:</b>   |        | RRTGC  |         | <b>IGC:</b>   |         | RRIGC  |         | <b>Undercrown Carbon:</b> |         | RRUCC             |         |        |        |      |  |  |                |  |                |  |



**1R SCOTE Test Procedure**  
**Form 7**  
**Oil Analysis Data**

|                            |          |                     |  |  |  |                  |  |  |  |  |               |  |  |  |  |
|----------------------------|----------|---------------------|--|--|--|------------------|--|--|--|--|---------------|--|--|--|--|
| <b>Test Identification</b> |          |                     |  |  |  |                  |  |  |  |  |               |  |  |  |  |
| Lab                        | LAB      | EOT Date DTCOMP     |  |  |  | End Time EOTTIME |  |  |  |  | Method METHOD |  |  |  |  |
| Stand                      | STAND    | Run ENRUN           |  |  |  |                  |  |  |  |  |               |  |  |  |  |
| Formulation/Stand Code     |          | FORM                |  |  |  |                  |  |  |  |  |               |  |  |  |  |
| Oilcode                    |          | OILCODE             |  |  |  |                  |  |  |  |  |               |  |  |  |  |
| Test Fuel                  | TESTFUEL | Fuel Batch FUELBTID |  |  |  |                  |  |  |  |  |               |  |  |  |  |

| Oil Analysis  | New    | TST H03 | TST H04 | TST H10 | TST H11 | TST H12 | TST H25 | TST H252 | TST H253 | TST H32 | TST H360 | TST H390 | TST_H432 | TST H43 | TST H504 |
|---------------|--------|---------|---------|---------|---------|---------|---------|----------|----------|---------|----------|----------|----------|---------|----------|
| VISC @ 100 °C | V100NE | V100H03 |         |         | V100H   |         |         | V100H252 |          |         | V100H360 |          | V100H432 |         | V100H504 |
| VISC @ 40 °C  | V40 NE | V40 H03 |         |         | V40 H   |         |         | V40 H252 |          |         | V40 H360 |          | V40 H432 |         | V40 H504 |
| TBN D4739     | TBN NE | TBN H03 |         |         | TAN F   |         |         | TAN H252 |          |         | TAN H360 |          | TAN H43  |         | TAN H50  |
| TAN D664      | TAN NE | TAN H03 |         |         | TAN H   |         |         | TAN H252 |          |         | TAN H360 |          | TAN H43  |         | TAN H50  |
| TGA Soot %    |        |         |         |         |         |         |         |          |          |         | TGA H360 |          | TGA H43  |         | TGA H50  |

**Wear Metals (ppm)**

|    |       |         |  |  |      |  |  |          |  |  |          |  |          |  |          |
|----|-------|---------|--|--|------|--|--|----------|--|--|----------|--|----------|--|----------|
| Fe | FEWMN | FEWMH03 |  |  | FEWM |  |  | FEWMH252 |  |  | FEWMH360 |  | FEWMH432 |  | FEWMH504 |
| Al | ALWMN | ALWMH03 |  |  | ALWM |  |  | ALWMH252 |  |  | ALWMH360 |  | ALWMH432 |  | ALWMH504 |
| Si | SIWMN | SIWMH03 |  |  | SIWM |  |  | SIWMH252 |  |  | SIWMH360 |  | SIWMH432 |  | SIWMH504 |
| Cu | CUWMN | CUWMH03 |  |  | CUWM |  |  | CUWMH252 |  |  | CUWMH360 |  | CUWMH432 |  | CUWMH504 |
| Cr | CRWMN | CRWMH03 |  |  | CRWM |  |  | CRWMH252 |  |  | CRWMH360 |  | CRWMH432 |  | CRWMH504 |
| Pb | PBWMN | PBWMH03 |  |  | PBWM |  |  | PBWMH252 |  |  | PBWMH360 |  | PBWMH432 |  | PBWMH504 |

**Other Results**

|                                    |         |         |         |         |         |         |          |          |         |          |          |          |          |          |          |
|------------------------------------|---------|---------|---------|---------|---------|---------|----------|----------|---------|----------|----------|----------|----------|----------|----------|
| Fuel Dilution                      | FDILH03 |         |         |         |         |         |          |          |         |          | FDILH360 |          |          |          | FDILH504 |
| IR O <sub>2</sub>                  | IRO2H03 |         |         |         | IRO2H   |         |          | IRO2H252 |         |          | IRO2H360 |          | IRO2H432 |          | IRO2H504 |
| Blowby(L/min)                      | BLBYH03 | BLBYH04 | BLBYH10 | BLBYH11 | BLBYH12 | BLBYH25 | BLBYH252 | BLBYH253 | BLBYH32 | BLBYH360 | BLBYH390 | BLBYH432 | BLBYH43  | BLBYH504 |          |
| Oil Consumption g/h for hrs ending | OCONH03 | OCONH04 | OCONH10 | OCONH11 | OCONE   | OCONH   | OCONH25  | OCONH252 | OCONH32 | OCONH360 | OCONH390 | OCONH432 | OCONE    | OCONH504 |          |
| Oil Consumption r <sup>2</sup>     | OCRRH03 | OCRRH04 | OCRRH10 | OCRRH11 | OCRRH12 | OCRRH25 | OCRRH252 | OCRRH253 | OCRRH32 | OCRRH360 | OCRRH390 | OCRRH432 | OCRRH43  | OCRRH504 |          |
| Fuel Position (mm)                 | FPOSH03 |         |         |         |         |         |          | FPOSH252 |         |          | FPOSH360 |          |          |          | FPOSH504 |

Note:

- (1) Total oil in system 5800 ± 50 g
- (2) Refill oil scale cart to full level every 36 h. Take oil samples at hours shown before adding oil.

**IR SCOTE Test Procedure**  
**Form 8**  
**Downtime Summary**

|                             |       |            |        |          |         |        |        |
|-----------------------------|-------|------------|--------|----------|---------|--------|--------|
| Lab                         | LAB   | EOT Date   | DTCOMP | End Time | EOTTIME | Method | METHOD |
| Stand                       | STAND | Run Number |        | ENRUN    |         |        |        |
| Formulation/Stand Code FORM |       |            |        |          |         |        |        |
| Oilcode OILCODE             |       |            |        |          |         |        |        |

| Number of Downtime Occurrences |          | DWNOCR   | Reasons                             |
|--------------------------------|----------|----------|-------------------------------------|
| Test Hours                     | Date     | Downtime |                                     |
| DOWNR001                       | DDATR001 | DTMR001  | DREAR001                            |
| DOWNR002                       | DDATR002 | DTMR002  | DREAR002                            |
| DOWNR003                       | DDATR003 | DTMR003  | DREAR003                            |
| DOWNR004                       | DDATR004 | DTMR004  | DREAR004                            |
| DOWNR005                       | DDATR005 | DTMR005  | DREAR005                            |
| DOWNR006                       | DDATR006 | DTMR006  | DREAR006                            |
| DOWNR007                       | DDATR007 | DTMR007  | DREAR007                            |
| DOWNR008                       | DDATR008 | DTMR008  | DREAR008                            |
| DOWNR009                       | DDATR009 | DTMR009  | DREAR009                            |
| DOWNR010                       | DDATR010 | DTMR010  | DREAR010                            |
| DOWNR011                       | DDATR011 | DTMR011  | DREAR011                            |
| DOWNR012                       | DDATR012 | DTMR012  | DREAR012                            |
| DOWNR013                       | DDATR013 | DTMR013  | DREAR013                            |
| DOWNR014                       | DDATR014 | DTMR014  | DREAR014                            |
| DOWNR015                       | DDATR015 | DTMR015  | DREAR015                            |
| <b>TOTLDOWN</b>                |          |          | <b>Total Downtime (125 HR. MAX)</b> |

| Comments                |        |
|-------------------------|--------|
| Number of Comment Lines | TOTCOM |
| OCOMR001                |        |
| OCOMR002                |        |
| OCOMR003                |        |
| OCOMR004                |        |
| OCOMR005                |        |
| OCOMR006                |        |
| OCOMR007                |        |
| OCOMR008                |        |
| OCOMR009                |        |
| OCOMR010                |        |
| OCOMR011                |        |
| OCOMR012                |        |
| OCOMR013                |        |
| OCOMR014                |        |
| OCOMR015                |        |

**IR SCOTE Test Procedure  
Form 8A  
Downtime Summary**

|                             |         |            |        |          |         |        |        |
|-----------------------------|---------|------------|--------|----------|---------|--------|--------|
| Lab                         | LAB     | EOT Date   | DTCOMP | End Time | EOTTIME | Method | METHOD |
| Stand                       | STAND   | Run Number |        | ENRUN    |         |        |        |
| Formulation/Stand Code FORM |         |            |        |          |         |        |        |
| Oilcode                     | OILCODE |            |        |          |         |        |        |

| Number of Downtime Occurrences |          |          | DW/NOCR                             | Reasons |
|--------------------------------|----------|----------|-------------------------------------|---------|
| Test Hours                     | Date     | Downtime |                                     |         |
| DOWNR016                       | DDATR016 | DTIMR016 | DREAR016                            |         |
| DOWNR017                       | DDATR017 | DTIMR017 | DREAR017                            |         |
| DOWNR018                       | DDATR018 | DTIMR018 | DREAR018                            |         |
| DOWNR019                       | DDATR019 | DTIMR019 | DREAR019                            |         |
| DOWNR020                       | DDATR020 | DTIMR020 | DREAR020                            |         |
| DOWNR021                       | DDATR021 | DTIMR021 | DREAR021                            |         |
| DOWNR022                       | DDATR022 | DTIMR022 | DREAR022                            |         |
| DOWNR023                       | DDATR023 | DTIMR023 | DREAR023                            |         |
| DOWNR024                       | DDATR024 | DTIMR024 | DREAR024                            |         |
| DOWNR025                       | DDATR025 | DTIMR025 | DREAR025                            |         |
| DOWNR026                       | DDATR026 | DTIMR026 | DREAR026                            |         |
| DOWNR027                       | DDATR027 | DTIMR027 | DREAR027                            |         |
| DOWNR028                       | DDATR028 | DTIMR028 | DREAR028                            |         |
| DOWNR029                       | DDATR029 | DTIMR029 | DREAR029                            |         |
| DOWNR030                       | DDATR030 | DTIMR030 | DREAR030                            |         |
|                                |          | TOTLDOWT | <b>Total Downtime (125 HR. MAX)</b> |         |

| Comments                |        |
|-------------------------|--------|
| Number of Comment Lines | TOTCOM |
| OCOMR016                |        |
| OCOMR017                |        |
| OCOMR018                |        |
| OCOMR019                |        |
| OCOMR020                |        |
| OCOMR021                |        |
| OCOMR022                |        |
| OCOMR023                |        |
| OCOMR024                |        |
| OCOMR025                |        |
| OCOMR026                |        |
| OCOMR027                |        |
| OCOMR028                |        |
| OCOMR029                |        |
| OCOMR030                |        |

**IR SCOTE Test Procedure  
Form 8B  
Downtime Summary**

|                             |       |            |        |          |         |        |        |
|-----------------------------|-------|------------|--------|----------|---------|--------|--------|
| Lab                         | LAB   | EOT Date   | DTCOMP | End Time | EOTTIME | Method | METHOD |
| Stand                       | STAND | Run Number | ENRJUN |          |         |        |        |
| Formulation/Stand Code FORM |       |            |        |          |         |        |        |
| Oilcode OILCODE             |       |            |        |          |         |        |        |

| Number of Downtime Occurrences |          |          | DWNOCR                              | Reasons |
|--------------------------------|----------|----------|-------------------------------------|---------|
| Test Hours                     | Date     | Downtime |                                     |         |
| DOWNR031                       | DDATR031 | DTIMR031 | DREAR031                            |         |
| DOWNR032                       | DDATR032 | DTIMR032 | DREAR032                            |         |
| DOWNR033                       | DDATR033 | DTIMR033 | DREAR033                            |         |
| DOWNR034                       | DDATR034 | DTIMR034 | DREAR034                            |         |
| DOWNR035                       | DDATR035 | DTIMR035 | DREAR035                            |         |
| DOWNR036                       | DDATR036 | DTIMR036 | DREAR036                            |         |
| DOWNR037                       | DDATR037 | DTIMR037 | DREAR037                            |         |
| DOWNR038                       | DDATR038 | DTIMR038 | DREAR038                            |         |
| DOWNR039                       | DDATR039 | DTIMR039 | DREAR039                            |         |
| DOWNR040                       | DDATR040 | DTIMR040 | DREAR040                            |         |
| DOWNR041                       | DDATR041 | DTIMR041 | DREAR041                            |         |
| DOWNR042                       | DDATR042 | DTIMR042 | DREAR042                            |         |
| DOWNR043                       | DDATR043 | DTIMR043 | DREAR043                            |         |
| DOWNR044                       | DDATR044 | DTIMR044 | DREAR044                            |         |
| DOWNR045                       | DDATR045 | DTIMR045 | DREAR045                            |         |
| <b>TOTLDOWN</b>                |          |          | <b>Total Downtime (125 HR. MAX)</b> |         |

| Comments                |  | TOTCOM |
|-------------------------|--|--------|
| Number of Comment Lines |  |        |
| OCOMR031                |  |        |
| OCOMR032                |  |        |
| OCOMR033                |  |        |
| OCOMR034                |  |        |
| OCOMR035                |  |        |
| OCOMR036                |  |        |
| OCOMR037                |  |        |
| OCOMR038                |  |        |
| OCOMR039                |  |        |
| OCOMR040                |  |        |
| OCOMR041                |  |        |
| OCOMR042                |  |        |
| OCOMR043                |  |        |
| OCOMR044                |  |        |
| OCOMR045                |  |        |

**IR SCOTE Test Procedure**  
**Form 9**  
**Ring Measurements**

|                             |       |          |        |          |         |        |        |
|-----------------------------|-------|----------|--------|----------|---------|--------|--------|
| Lab                         | LAB   | EOT Date | DTCOMP | End Time | EOTTIME | Method | METHOD |
| Stand                       | STAND | Run      |        |          |         | ENRUN  |        |
| Formulation/Stand Code FORM |       |          |        |          |         |        |        |
| Oilcode OILCODE             |       |          |        |          |         |        |        |

All Ring Measurements Are Made Using Metric Feeler Gages

| Ring Gaps Specifications (mm) | 1Y4014  | 1Y4013        | 1Y4012        |
|-------------------------------|---------|---------------|---------------|
|                               | Top     | Intermediate  | Oil           |
| 0.350 – 0.550                 |         | 0.754 – 0.906 | 0.400 – 0.750 |
| Pre-Test                      | RINGGTE | RINGGIE       | RINGGOE       |
| Post-Test                     | RINGGTO | RINGGIO       | RINGGOO       |
| Increase                      | RINGGTI | RINGGII       | RINGGOI       |

| Ring Side Clearance* | A         | B        | C        | D        | Average  | Minimum  | Specification       |                     |
|----------------------|-----------|----------|----------|----------|----------|----------|---------------------|---------------------|
|                      | Pre-Test  | SIDETPE1 | SIDETPE2 | SIDETPE3 | SIDETPE4 | ASIDETPE |                     | ISIDETPE            |
| Post-Test            | SIDETPO1  | SIDETPO2 | SIDETPO3 | SIDETPO4 | ASIDETPO | ISIDETPO | 0.090 mm – 0.127 mm |                     |
| LSC                  | L SCT1    | L SCT2   | L SCT3   | L SCT4   | L SCTOP  | ILSCT    |                     |                     |
| Int.                 | Pre-Test  | SIDE1PE1 | SIDE1PE2 | SIDE1PE3 | SIDE1PE4 | ASIDE1PE | ISIDE1PE            | 0.060 mm – 0.110 mm |
|                      | Post-Test | SIDE1PO1 | SIDE1PO2 | SIDE1PO3 | SIDE1PO4 | ASIDE1PO | ISIDE1PO            |                     |
|                      | LSC       | L SC11   | L SC12   | L SC13   | L SC14   | L SCINT1 | ILSCINT             |                     |
|                      | Pre-Test  | SIDE1PE1 | SIDE1PE2 | SIDE1PE3 | SIDE1PE4 | ASIDE1PE | ISIDE1PE            |                     |
| Oil                  | Pre-Test  | SIDE1PE1 | SIDE1PE2 | SIDE1PE3 | SIDE1PE4 | ASIDE1PE | ISIDE1PE            | 0.030 mm – 0.080 mm |
|                      | Post-Test | SIDE1PO1 | SIDE1PO2 | SIDE1PO3 | SIDE1PO4 | ASIDE1PO | ISIDE1PO            |                     |
|                      | LSC       | L SC01   | L SC02   | L SC03   | L SC04   | L SCOIL  | ILSCO               |                     |

\* Notes:

1. Write “STUCK” in place of dimension when applicable.
2. Write “<0.03 mm” for clearance when applicable.
3. Write “>” before calculated decrease or average decrease values that incorporate a “<0.03 mm” in calculation.
4. LSC = Loss of side clearance
5. MIN: Oil Ring minimum side clearance is measured 360° around piston.

**IR SCOTE Test Procedure**  
**Form 10**  
**Liner Measurements**

|                             |                 |                  |               |
|-----------------------------|-----------------|------------------|---------------|
| Lab LAB                     | EOT Date DTCOMP | End Time EOTTIME | Method METHOD |
| Stand STAND                 | Run ENRUN       |                  |               |
| Formulation/Stand Code FORM |                 |                  |               |
| Oilcode OILCODE             |                 |                  |               |

| Liner Surface Finish (µm)                 |            |              |          |
|---|------------|--------------|----------|
| Distance From Top                         | Transverse | Longitudinal | Average  |
| 130 mm                                    | BBLFIN1    | BBLFINL1     | BBLFINA1 |
| 50 mm                                     | BBLFIN2    | BBLFINL2     | BBLFINA2 |
| 25 mm                                     | BBLFIN3    | BBLFINL3     | BBLFINA3 |
| <b>Total Average (Spec: 0.4 – 0.8 µm)</b> |            |              | BBLFIN   |

| % Liner Bore Polish – Grid<br>(Add T/AT Values From Grid) |         |
|---|---------|
| Thrust  | BOREPT  |
| Anti-Thrust   | BOREPAT |
| Total   | BOREPOL |

| Liner Bore Measurement (137.154 mm minimum) |              |               |                                |
|---|--------------|---------------|--------------------------------|
| Before Test - Diameter (Dial Bore Gage)     |              |               |                                |
| Bore Height                                 | Longitudinal | Transverse    | Out of Round<br>(0.038 mm max) |
| 250 mm                                      | BBLONG1      | BBTRAN1       | OOR1                           |
| 210 mm                                      | BBLONG2      | BBTRAN2       | OOR2                           |
| 170 mm                                      | BBLONG3      | BBTRAN3       | OOR3                           |
| 130 mm                                      | BBLONG4      | BBTRAN4       | OOR4                           |
| 50 mm                                       | BBLONG5      | BBTRAN5       | OOR5                           |
| 25 mm                                       | BBLONG6      | BBTRAN6       | OOR6                           |
| 15 mm                                       | BBLONG7      | BBTRAN7       | OOR7                           |
| Taper (0.050 mm max.)                       | TAPRLONG     | TAPRTRAN      |                                |
| After Test – (Surface Profile)              |              |               |                                |
| Longitudinal µm                             |              | Transverse µm |                                |
|   | Front        | Rear          | T                              |
|   | AWEARLF      | AWEARLR       | AWEARTT                        |
|   | AWEARLRF     | AWEARLR       | AWEARRTT                       |
|   | AWEARLRF     | AWEARLR       | AWEARRTT                       |
|   | AWEARLRF     | AWEARLR       | AWEARRTT                       |

**1R SCOTE Test Procedure  
Form 11  
Characteristics of the Data Acquisition System**

|                             |                 |                  |               |
|-----------------------------|-----------------|------------------|---------------|
| Lab LAB                     | EOT Date DTCOMP | End Time EOTTIME | Method METHOD |
| Stand STAND                 | Run ENRUN       |                  |               |
| Formulation/Stand Code FORM |                 |                  |               |
| Oilcode OILCODE             |                 |                  |               |

| Parameter<br>(1)            | Sensing<br>Device<br>(2) | Calibration<br>Frequency<br>(3) | Record<br>Device<br>(4) | Observation<br>Frequency<br>(5) | Record<br>Frequency<br>(6) | Log<br>Frequency<br>(7) | System<br>Response<br>(8) |
|-----------------------------|--------------------------|---------------------------------|-------------------------|---------------------------------|----------------------------|-------------------------|---------------------------|
| <b>Operation Conditions</b> |                          |                                 |                         |                                 |                            |                         |                           |
| Engine Speed (r/min)        | RPMSENS                  | RPMCALF                         | RPMRECD                 | RPMOBSF                         | RPMRECF                    | RPMLOGF                 | RPMSYSR                   |
| Engine Power (kW)           | PWRSENS                  | PWRCALF                         | PWRRECD                 | PWROBSF                         | PWRRECF                    | PWRLOGF                 | PWRSYSR                   |
| Fuel Flow (g/min)           | FFLOSENS                 | FFLOCALF                        | FFLORECD                | FFLOBSF                         | FFLORECF                   | FFLOLOGF                | FFLOSYSR                  |
| Humidity (g/kg)             | HUMSENS                  | HUMCALF                         | HUMRECD                 | HUMOBSF                         | HUMRECF                    | HUMLOGF                 | HUMSYSR                   |
| <b>Temperatures (°C)</b>    |                          |                                 |                         |                                 |                            |                         |                           |
| Coolant Out                 | COTSENS                  | COTCALF                         | COTRECD                 | COTOBSF                         | COTRECF                    | COTLOGF                 | COTSYSR                   |
| Coolant In                  | CONSENS                  | CONCALF                         | CONRECD                 | CONOBSF                         | CONRECF                    | CONLOGF                 | CONSYSR                   |
| Oil to Manifold             | OBRGSENS                 | OBRGCALF                        | OBRGRECD                | OBRGOBSF                        | OBRGRECF                   | OBRGLOGF                | OBRGSYSR                  |
| Oil Cooler In               | OCOLSENS                 | OCOLCALF                        | OCOLRECD                | OCOLOBSF                        | OCOLRECF                   | OCOLLOGF                | OCOLSYSR                  |
| Inlet Air                   | AIRSENS                  | AIRCALF                         | AIRTRECD                | AIRTOBSF                        | AIRTRECF                   | AIRTLOGF                | AIRTSYSR                  |
| Exhaust                     | EXTSENS                  | EXTCALF                         | EXTRECD                 | EXTOBSF                         | EXTRECF                    | EXTLOGF                 | EXTSYSR                   |
| Fuel To Head                | FUESENS                  | FUELCALF                        | FUELRECD                | FUELOBSF                        | FUELRECF                   | FUELLOGF                | FUELSYSR                  |
| <b>Pressures (kPa)</b>      |                          |                                 |                         |                                 |                            |                         |                           |
| Oil to Manifold             | OBRPSENS                 | OBRPCALF                        | OBRPRECD                | OBRPOBSF                        | OBRPRECF                   | OBRPLOGF                | OBRPSYSR                  |
| Inlet Air                   | AIRPSENS                 | AIRPCALF                        | AIRPRECD                | AIRPOBSF                        | AIRPRECF                   | AIRPLOGF                | AIRPSYSR                  |
| Exhaust                     | EXPSENS                  | EXPCALF                         | EXPRECD                 | EXPOBSF                         | EXPRECF                    | EXPLOGF                 | EXPSYSR                   |
| Fuel from Head              | FFILSENS                 | FFILCALF                        | FFILRECD                | FFILOBSF                        | FFILRECF                   | FFILLOGF                | FFILSYSR                  |
| Crankcase                   | CCVSENS                  | CCVCALF                         | CCVRECD                 | CCVOBSF                         | CCVRECF                    | CCVLOGF                 | CCVSYSR                   |
| <b>Flows (L/min)</b>        |                          |                                 |                         |                                 |                            |                         |                           |
| Blowby                      | BLBYSENS                 | BLBYCALF                        | BLBYRECD                | BLBYOBSF                        | BLBYRECF                   | BLBYLOGF                | BLBYSYSR                  |
| Coolant Flow                | CFLWSENS                 | CFLWCALF                        | CFLWRECD                | CFLWOBSF                        | CFLWRECF                   | CFLWLOGF                | CFLWSYSR                  |

Legend:

- (1) OPERATING PARAMETER  
 (2) THE TYPE OF DEVICE USED TO MEASURE TEMPERATURE, PRESSURE, OR FLOW  
 (3) THE FREQUENCY AT WHICH THE MEASUREMENT IS CALIBRATED  
 (4) THE TYPE OF DEVICE WHERE DATA IS RECORDED  
 LG – HANDLOG SHEET  
 DL – AUTOMATIC DATA LOGGER  
 SC – STRIP CART RECORDER  
 C/N – COMPUTER, USING MANUAL ENTRY  
 C/D – COMPUTER, USING DIRECT I/O ENTRY

- (5) DATA OBSERVED BUT ONLY RECORDED IF OFF SPEC.  
 (6) DATA ARE RECORDED BUT ARE NOT RETAINED AT EOT  
 (7) DATA ARE LOGGED AS PERMANENT RECORD, NOTE SPECIFY:  
 SS – SNAPSHOT TAKEN AT SPECIFIED FREQUENCY  
 AG/X – AVERAGE OF X DATA POINTS AT SPECIFIED FREQUENCY  
 (8) TIME FOR THE OUTPUT TO REACH 63.2% OF FINAL VALUE FOR STEP CHANGE AT INPUT

**IR SCOTE Test Procedure**  
**Form 12**  
**Engine Operational Data Plots**

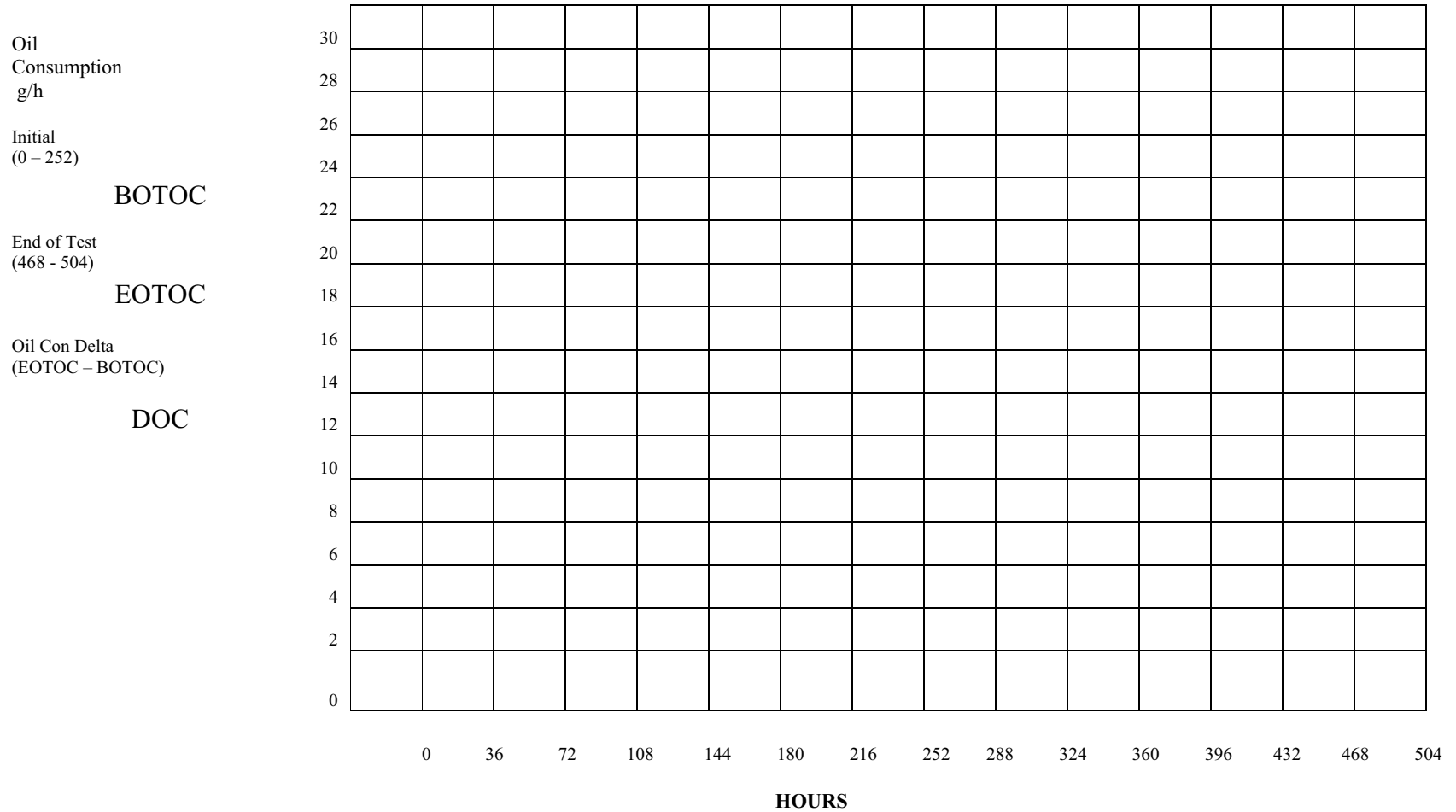
|                             |                 |                  |               |
|-----------------------------|-----------------|------------------|---------------|
| Lab LAB                     | EOT Date DTCOMP | End Time EOTTIME | Method METHOD |
| Stand STAND                 |                 | Run ENRUN        |               |
| Formulation/Stand Code FORM |                 |                  |               |
| Oilcode OILCODE             |                 |                  |               |





**1R SCOTE Test Procedure  
Form 14  
Oil Consumption**

|                              |                 |                  |               |
|------------------------------|-----------------|------------------|---------------|
| Lab LAB                      | EOT Date DTCOMP | End Time EOTTIME | Method METHOD |
| Stand STAND                  | Run ENRUN       |                  |               |
| Formulation/Stand Code: FORM |                 |                  |               |
| Oilcode OILCODE              |                 |                  |               |



**IR SCOTTE Test Procedure**  
**Form 15**  
**Piston, Ring and Liner Photographs**

|                        |                 |                  |               |
|------------------------|-----------------|------------------|---------------|
| Lab LAB                | EOT Date DTCOMP | End Time EOTTIME | Method METHOD |
| Stand STAND            |                 | Run ENRUN        |               |
| Formulation/Stand Code | FORM            |                  |               |
| Oilcode OILCODE        |                 |                  |               |

PRLIM

Refer to Appendix A14 for an example of Photo

**IR SCOTE Test Procedure**  
**Form 16**  
**Severity Adjustment History**

|                  |       |                        |        |          |         |        |        |       |
|------------------|-------|------------------------|--------|----------|---------|--------|--------|-------|
| Lab              | LAB   | EOT Date               | DTCOMP | End Time | EOTTIME | Method | METHOD |       |
| Stand            | STAND | Formulation/Stand Code |        |          |         | FORM   | Run    | ENRUN |
| Oilcode: OILCODE |       |                        |        |          |         |        |        |       |

| Usage Dates |          | WD       |          |          | TGF      |          |          | TLC      |          |          | BTOC     |    |      | ETOC |      |  |
|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|------|------|------|--|
| Start       | Time     | Zi       | S.A.     | Zi       | S.A.     | Zi       | S.A.     | Zi       | S.A.     | Zi       | S.A.     | Zi | S.A. | Zi   | S.A. |  |
| DTSTR001    | DTTMR001 | WDZIR001 | WDSAR001 | TGZIR001 | TGSAR001 | TLZIR001 | TLSAR001 | OCZIR001 | OCSAR001 | ETZIR001 | ETSAR001 |    |      |      |      |  |
| DTSTR002    | DTTMR002 | WDZIR002 | WDSAR002 | TGZIR002 | TGSAR002 | TLZIR002 | TLSAR002 | OCZIR002 | OCSAR002 | ETZIR002 | ETSAR002 |    |      |      |      |  |
| DTSTR003    | DTTMR003 | WDZIR003 | WDSAR003 | TGZIR003 | TGSAR003 | TLZIR003 | TLSAR003 | OCZIR003 | OCSAR003 | ETZIR003 | ETSAR003 |    |      |      |      |  |
| DTSTR004    | DTTMR004 | WDZIR004 | WDSAR004 | TGZIR004 | TGSAR004 | TLZIR004 | TLSAR004 | OCZIR004 | OCSAR004 | ETZIR004 | ETSAR004 |    |      |      |      |  |
| DTSTR005    | DTTMR005 | WDZIR005 | WDSAR005 | TGZIR005 | TGSAR005 | TLZIR005 | TLSAR005 | OCZIR005 | OCSAR005 | ETZIR005 | ETSAR005 |    |      |      |      |  |
| DTSTR006    | DTTMR006 | WDZIR006 | WDSAR006 | TGZIR006 | TGSAR006 | TLZIR006 | TLSAR006 | OCZIR006 | OCSAR006 | ETZIR006 | ETSAR006 |    |      |      |      |  |
| DTSTR007    | DTTMR007 | WDZIR007 | WDSAR007 | TGZIR007 | TGSAR007 | TLZIR007 | TLSAR007 | OCZIR007 | OCSAR007 | ETZIR007 | ETSAR007 |    |      |      |      |  |
| DTSTR008    | DTTMR008 | WDZIR008 | WDSAR008 | TGZIR008 | TGSAR008 | TLZIR008 | TLSAR008 | OCZIR008 | OCSAR008 | ETZIR008 | ETSAR008 |    |      |      |      |  |
| DTSTR009    | DTTMR009 | WDZIR009 | WDSAR009 | TGZIR009 | TGSAR009 | TLZIR009 | TLSAR009 | OCZIR009 | OCSAR009 | ETZIR009 | ETSAR009 |    |      |      |      |  |
| DTSTR010    | DTTMR010 | WDZIR010 | WDSAR010 | TGZIR010 | TGSAR010 | TLZIR010 | TLSAR010 | OCZIR010 | OCSAR010 | ETZIR010 | ETSAR010 |    |      |      |      |  |
| DTSTR011    | DTTMR011 | WDZIR011 | WDSAR011 | TGZIR011 | TGSAR011 | TLZIR011 | TLSAR011 | OCZIR011 | OCSAR011 | ETZIR011 | ETSAR011 |    |      |      |      |  |
| DTSTR012    | DTTMR012 | WDZIR012 | WDSAR012 | TGZIR012 | TGSAR012 | TLZIR012 | TLSAR012 | OCZIR012 | OCSAR012 | ETZIR012 | ETSAR012 |    |      |      |      |  |
| DTSTR013    | DTTMR013 | WDZIR013 | WDSAR013 | TGZIR013 | TGSAR013 | TLZIR013 | TLSAR013 | OCZIR013 | OCSAR013 | ETZIR013 | ETSAR013 |    |      |      |      |  |
| DTSTR014    | DTTMR014 | WDZIR014 | WDSAR014 | TGZIR014 | TGSAR014 | TLZIR014 | TLSAR014 | OCZIR014 | OCSAR014 | ETZIR014 | ETSAR014 |    |      |      |      |  |
| DTSTR015    | DTTMR015 | WDZIR015 | WDSAR015 | TGZIR015 | TGSAR015 | TLZIR015 | TLSAR015 | OCZIR015 | OCSAR015 | ETZIR015 | ETSAR015 |    |      |      |      |  |
| DTSTR016    | DTTMR016 | WDZIR016 | WDSAR016 | TGZIR016 | TGSAR016 | TLZIR016 | TLSAR016 | OCZIR016 | OCSAR016 | ETZIR016 | ETSAR016 |    |      |      |      |  |
| DTSTR017    | DTTMR017 | WDZIR017 | WDSAR017 | TGZIR017 | TGSAR017 | TLZIR017 | TLSAR017 | OCZIR017 | OCSAR017 | ETZIR017 | ETSAR017 |    |      |      |      |  |
| DTSTR018    | DTTMR018 | WDZIR018 | WDSAR018 | TGZIR018 | TGSAR018 | TLZIR018 | TLSAR018 | OCZIR018 | OCSAR018 | ETZIR018 | ETSAR018 |    |      |      |      |  |
| DTSTR019    | DTTMR019 | WDZIR019 | WDSAR019 | TGZIR019 | TGSAR019 | TLZIR019 | TLSAR019 | OCZIR019 | OCSAR019 | ETZIR019 | ETSAR019 |    |      |      |      |  |
| DTSTR020    | DTTMR020 | WDZIR020 | WDSAR020 | TGZIR020 | TGSAR020 | TLZIR020 | TLSAR020 | OCZIR020 | OCSAR020 | ETZIR020 | ETSAR020 |    |      |      |      |  |
| DTSTR021    | DTTMR021 | WDZIR021 | WDSAR021 | TGZIR021 | TGSAR021 | TLZIR021 | TLSAR021 | OCZIR021 | OCSAR021 | ETZIR021 | ETSAR021 |    |      |      |      |  |
| DTSTR022    | DTTMR022 | WDZIR022 | WDSAR022 | TGZIR022 | TGSAR022 | TLZIR022 | TLSAR022 | OCZIR022 | OCSAR022 | ETZIR022 | ETSAR022 |    |      |      |      |  |
| DTSTR023    | DTTMR023 | WDZIR023 | WDSAR023 | TGZIR023 | TGSAR023 | TLZIR023 | TLSAR023 | OCZIR023 | OCSAR023 | ETZIR023 | ETSAR023 |    |      |      |      |  |
| DTSTR024    | DTTMR024 | WDZIR024 | WDSAR024 | TGZIR024 | TGSAR024 | TLZIR024 | TLSAR024 | OCZIR024 | OCSAR024 | ETZIR024 | ETSAR024 |    |      |      |      |  |
| DTSTR025    | DTTMR025 | WDZIR025 | WDSAR025 | TGZIR025 | TGSAR025 | TLZIR025 | TLSAR025 | OCZIR025 | OCSAR025 | ETZIR025 | ETSAR025 |    |      |      |      |  |

**IR SCOTE Test Procedure**  
**Form 17**  
**Fuel Batch Analysis**

|                        |                 |                  |                |
|------------------------|-----------------|------------------|----------------|
| Lab LAB                | EOT Date DTCOMP | End Time EOTTIME | Method METHHOD |
| Stand STAND            |                 | Run ENRUN        |                |
| Formulation/Stand Code | FORM            |                  |                |
| Oilcode                | OILCODE         |                  |                |

FUE LIM

Refer to Appendix A14 for examples of appropriate Fuel Batch Analysis

**IR SCOTE Test Procedure**  
**Form 18**  
**TMC Control Chart Analysis**  
**(Reference Oil Tests Only)**

| Lab                    | LAB     | EOT Date | DTCOMP | End Time | EOTTIME | Method | METHOD |
|------------------------|---------|----------|--------|----------|---------|--------|--------|
| Stand                  | STAND   |          |        | Run      | ENRUN   |        |        |
| Formulation/Stand Code | FORM    |          |        |          |         |        |        |
| Oilcode                | OILCODE |          |        |          |         |        |        |

CCHIM

Refer to Appendix A14 for examples of Control Chart Analysis page.

## IR SCOTE Test Procedure

Form 19

American Chemistry Council Code of Practice

Test Laboratory Conformance Statement

|                          |          |            |         |           |       |
|--------------------------|----------|------------|---------|-----------|-------|
| Test Laboratory          | SUBLAB   |            |         |           |       |
| Test Sponsor             | TSTSPON1 |            |         |           |       |
| Formulation / Stand Code | FORM     |            |         |           |       |
| Test Number              | TESTNUM  |            |         |           |       |
| Start Date               | DTSTRT   | Start Time | STRTIME | Time Zone | TZONE |

No. 1 All requirements of the ACC Code of Practice for which the test laboratory is responsible were met in the conduct of this test. Yes ESRQME No IORQME\*

No. 2 The laboratory ran this test for the full duration following all procedural requirements; and all operational validity requirements of the latest version of the applicable test procedure (ASTM or other), including all updates issued by the organization responsible for the test, were met.  
Yes YESFULL No NOFULL \*

If the response to this Declaration is "No", does the test engineer consider the deviations from operational validity requirements that occurred to be beyond the control of the laboratory?  
Yes YESNODEC\* No NONODEC

No 3. A deviation occurred for one of the test parameters identified by the organization responsible for the test as being a special case. Yes YESDEV \* No NODEV (This currently applies only to specific deviations identified in the ASTM Information Letter System)

|          |   |
|----------|---|
| INCLUDE  | Operational review of this test indicates that the results should be included in the Multiple Test Acceptance Criteria calculations.      |
| NONOTINC | *Operational review of this test indicates that the results should not be included in the Multiple Test Acceptance Criteria calculations. |

Note: Supporting comments are required for all responses identified with an asterisk.

|          |  |
|----------|--|
| Comments |  |
| ACCCOMM1 |  |
| ACCCOMM2 |  |
| ACCCOMM3 |  |
| ACCCOMM4 |  |

Signature \_\_\_\_\_ SUBSIGM \_\_\_\_\_ SUBDATE \_\_\_\_\_  
Date \_\_\_\_\_  
Typed Name \_\_\_\_\_ SUBNAME \_\_\_\_\_ Title \_\_\_\_\_ SUBTITLE \_\_\_\_\_