### A2. Report Forms D 6594 Evaluation of the Corrosiveness of Diesel Engine Oil at 135°C

Version HTCBT VERSION 20010117

# **Conducted For**

TSTSPON1

TSTSPON2

|          | V = Valid  |
|----------|--|
| LABVALID | I = Invalid  |
|          | N = Results cannot be interpreted as representative of oil performance. (Non-reference oil). |

|  |           | Test N   | umber |                   |           |        |
|--|-----------|----------|-------|-------------------|-----------|--------|
| Bath: BTHNO                            | Bath Run: | BTHRUNNO |       | Bath Position: RE | BTHPOS    | BTHPOS |
| End of Test Date: DTCO                 | MP        |          |       | End of Test Time  | e: EOTTIN | ЛЕ     |
| <b>Oil Code</b> <sup>A</sup> : OILCODE |           |          |       |                   |           | CMIR   |
| Formulation/Stand Cod                  | le: FORM  |          |       |                   |           |        |
| Alternate Codes:                       | ALTCODE1  |          | ALTCO | DDE2              | ALTCOD    | E3     |
|  |           |          |       |                   |           |        |

In my opinion this test OPVALID been conducted in a valid manner in accordance with the Test Method D6594 and the appropriate amendments through the information letter system. The remarks included in the report describe the anomalies associated with this test.

<sup>A</sup> CMIR or Non-Reference Oil Code

SUBLAB Testing Laboratory SUBSIGIM Signature SUBNAME Typed Name SUBTITLE Title

Fig. A2.1 Final Report Cover Sheet

### D 6594 Evaluation of the Corrosiveness of Diesel Engine Oil at 135°C Form 2 Summary of Results

| Lab: LAB         | Bath: BTHNO   | Bath Run: BTHRUNNO       | <b>Bath Position:</b> | RBTHPOSBTHPOS |
|------------------|---------------|--------------------------|-----------------------|---------------|
| EOT Date: DTCC   | OMP           | <b>EOT Time:</b> EOTTIME |                       |               |
| Oil Code: CMIR   | OILCODE       |                          | Start Date:           | DTSTRT        |
| Formulation/Star | nd Code: FORM |                          |                       |               |
| Test Length: TE  | ESTLEN        |                          |                       |               |

|                         | Test Oil Identification      |  |  |
|-------------------------|------------------------------|--|--|
| Reference Oil Test      | Non-Reference Oil Test       |  |  |
| CMIR Code: CMIR         | Oil Code: OILCODE            |  |  |
| TMC Oil No.: IND        | Formulation/Stand Code: FORM |  |  |
| SAE Viscosity: RSAEVISC | SAE Viscosity: SAEVISC       |  |  |
| Lab Oil Code: RLABOCOD  | Lab Oil Code: LABOCODE       |  |  |

|               | Change In Metal Concentration (ppm) |                             |                              |                                     |                             |                              |                                     |
|---------------|-------------------------------------|-----------------------------|------------------------------|-------------------------------------|-----------------------------|------------------------------|-------------------------------------|
|               |                                     |                             | Reference C                  | Dil Test                            | Non-Reference Oil Test      |                              |                                     |
| Metal<br>Type | Number<br>of<br>Runs                | New Oil<br>Average<br>(ppm) | Used Oil<br>Average<br>(ppm) | Change in<br>Concentration<br>(ppm) | New Oil<br>Average<br>(ppm) | Used Oil<br>Average<br>(ppm) | Change in<br>Concentration<br>(ppm) |
| Copper (Cu)   | CURUNS                              | RCUNA                       | RCUUA                        | RCUCMC                              | CUNA                        | CUUA                         | CUCMC                               |
| Lead (Pb)     | PBRUNS                              | RPBNA                       | RPBUA                        | RPBCMC                              | PBNA                        | PBUA                         | PBCMC                               |
| Tin (Sn)      | SNRUNS                              | RSNNA                       | RSNUA                        | RSNCMC                              | SNNA                        | SNUA                         | SNCMC                               |
| Internal Std. | ISRUNS                              | RISNA                       | RISUA                        |                                     | ISNA                        | ISUA                         |                                     |

| ASTM D-130 Copper Strip Rating  |                                     |  |
|---------------------------------|-------------------------------------|--|
| Reference Oil Test <sup>A</sup> | Non-Reference Oil Test <sup>A</sup> |  |
| RCUSTRIP                        | CUSTRIP                             |  |

| Evaporation Loss (%) |                        |  |
|----------------------|------------------------|--|
| Reference Oil Test   | Non-Reference Oil Test |  |
| REVAPLOS             | EVAPLOS                |  |

|             | Reference Oil Test S | Specimen   | Non-Reference Oil Test Specimen |
|-------------|----------------------|------------|---------------------------------|
| Metal Type  | Batch ID Number      | Batch Code | Batch I.D. Number               |
| Copper (Cu) | RCUIDNO              |            | CUIDNO                          |
| Lead (Pb)   | RPBIDNO              |            | PBIDNO                          |
| Tin (Sn)    | RSNIDNO              | REFBATCH   | SNIDNO                          |
| Bronze      | RBRIDNO              |            | BRIDNO                          |

<sup>A</sup> D130 evaluation is not performed. Only D130 rating scale is used.

Fig. A2.2 Summary of Results

# D 6594 Evaluation of the Corrosiveness of Diesel Engine Oil at 135°C Form 3 Comments

| Lab: LAB       | Bath: BTHNO    | Bath Run: BTHRUNNO       | <b>Bath Position:</b> | RBTHPOS    | BTHPOS |
|----------------|----------------|--------------------------|-----------------------|------------|--------|
| EOT Date: DT   | COMP           | <b>EOT Time:</b> EOTTIME |                       |            |        |
| Oil Code: CMIR | OILCODE        |                          | Start Da              | te: DTSTRT |        |
| Formulation/St | and Code: FORM |                          |                       |            |        |

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

# D 6594 Evaluation of the Corrosiveness of Diesel Engine Oil at 135°C Form 3A Comments

| Lab:LAB        | Bath: BTHNO    | Bath Run: BTHRUNNO | Bath Position: RBTHPOS BTHPOS |
|----------------|----------------|--------------------|-------------------------------|
| EOT Date: DTC  | COMP           | EOT Time: EOTTIME  |                               |
| Oil Code: CMIR | OILCODE        |                    | Start Date: DTSTRT            |
| Formulation/St | and Code: FORM |                    |                               |

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

# D 6594 Evaluation of the Corrosiveness of Diesel Engine Oil at 135°C Form 3B Comments

| Lab:LAB                      | Bath: BTHNO | Bath Run: BTHRUNNO       | Bath Position: RBTHPOS BTHPOS |  |
|------------------------------|-------------|--------------------------|-------------------------------|--|
| EOT Date: DTCOMP             |             | <b>EOT Time:</b> EOTTIME |                               |  |
| Oil Code: CMIR               | OILCODE     |                          | Start Date: DTSTRT            |  |
| Formulation/Stand Code: FORM |             |                          |                               |  |

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