



### DYSON ANALYSIS

**Machine Type:** GASOLINE ENGINE  
**Fluid In Use:** Castrol Syntec 5W-40  
**Lube Brand:** CASTROL  
**Make:** VOLKSWAGEN

**Received:** 11/24/2014  
**Report:** 11/24/2014  
**Model:** GTI

**ATTN:**

|               |         |            |          |  |  |  |  |  |
|---------------|---------|------------|----------|--|--|--|--|--|
| Date          |         | 11/19/2014 | 8/8/2014 |  |  |  |  |  |
| Lab Number    | NEW OIL | 1376491    | 1317039  |  |  |  |  |  |
| Lube Miles    |         | 3781       | 2889     |  |  |  |  |  |
| Machine Miles |         | 6670       | 2889     |  |  |  |  |  |

#### SPECTROSCOPIC ANALYSIS (ppm) ASTM D5185 Mod

|            |      |      |      |  |  |  |  |  |
|------------|------|------|------|--|--|--|--|--|
| Iron       | 2    | 15   | 25   |  |  |  |  |  |
| Copper     | 0    | 14   | 38   |  |  |  |  |  |
| Lead       | 0    | 0    | 0    |  |  |  |  |  |
| Aluminum   | 0    | 2    | 6    |  |  |  |  |  |
| Tin        | 0    | 1    | 4    |  |  |  |  |  |
| Nickel     | 0    | 0    | 0    |  |  |  |  |  |
| Chromium   | 0    | 0    | 0    |  |  |  |  |  |
| Titanium   | 0    | 0    | 0    |  |  |  |  |  |
| Vanadium   | 0    | 0    | 0    |  |  |  |  |  |
| Silver     | 0    | 0    | 0    |  |  |  |  |  |
| Silicon    | 7    | 10   | 26   |  |  |  |  |  |
| Boron      | 67   | 49   | 2    |  |  |  |  |  |
| Calcium    | 2276 | 2505 | 1406 |  |  |  |  |  |
| Magnesium  | 22   | 16   | 6    |  |  |  |  |  |
| Phosphorus | 809  | 753  | 595  |  |  |  |  |  |
| Zinc       | 895  | 908  | 760  |  |  |  |  |  |
| Barium     | 0    | 0    | 0    |  |  |  |  |  |
| Molybdenum | 0    | 2    | 1    |  |  |  |  |  |
| Sodium     | 0    | 0    | 0    |  |  |  |  |  |
| Potassium  | 0    | 0    | 0    |  |  |  |  |  |

#### PHYSICAL PROPERTIES

|                                 |        |        |        |  |  |  |  |  |
|---------------------------------|--------|--------|--------|--|--|--|--|--|
| Viscosity @ 40C ASTM D 445 Mod  |        | 62.8   | 65.6   |  |  |  |  |  |
| Viscosity @ 100C ASTM D 445 Mod | 14.2   | 11.1   | 11.8   |  |  |  |  |  |
| Viscosity Index ASTM D 2270 *   |        | 171    | 178    |  |  |  |  |  |
| Base Number                     | 9.23 † | 5.66 ‡ | 3.55 † |  |  |  |  |  |
| Acid Number ASTM D 974          |        | 1.63   | 1.39   |  |  |  |  |  |

#### IR (Indexing Numbers) JOAP Method

|           |     |     |     |  |  |  |  |  |
|-----------|-----|-----|-----|--|--|--|--|--|
| Oxidation | 8   | 14  | 19  |  |  |  |  |  |
| Nitration | 6   | 11  | 9   |  |  |  |  |  |
| Antiwear  | 14  | 14  | 13  |  |  |  |  |  |
| Sulfation | 10  | 17  | 20  |  |  |  |  |  |
| Glycol    | 0   | 0   | 0   |  |  |  |  |  |
| Soot (%)  | 0.0 | 0.0 | 0.0 |  |  |  |  |  |

#### SINGLE COMPONENT TESTS

|                         |     |         |         |  |  |  |  |  |
|-------------------------|-----|---------|---------|--|--|--|--|--|
| Water ppm               |     | 340 (c) | 400 (c) |  |  |  |  |  |
| Fuel Dilution % By GC * | 0.5 | 3.4     | 0.0     |  |  |  |  |  |