# OIL REPORT

**LAB NUMBER:**
**REPORT DATE:** 4/11/2013
**CODE:**
**UNIT ID:** 12 PRIUS
**CLIENT ID:**
**PAYMENT:**

**UNIT**

MAKE/MODEL: Toyota 1.5L 4-cyl (1NZ-FXE) (Prius)
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO:
OIL TYPE & GRADE: Toyota 0W-20
OIL USE INTERVAL: 10,436 Miles

**CLIENT**

PHONE:
FAX:
ALT PHONE:
EMAIL:

**COMMENTS**

GEORGE: Our overall finding in this report is that your Prius' engine is still maturing very nicely. Most metals (including iron, copper and lead) and silicon have all dropped pretty significantly since last time. The one exception is aluminum, which increased by a mere 2 ppm over this oil run. That may show a little extra piston wear, but at this point it's really nothing to get excited about. It should taper off in your next reports, and other metals should continue to improve as well. The TBN still was good at 2.3, so go up to 11,500 miles on your next report. Check back to monitor.

**ELEMENTS IN PARTS PER MILLION**

| | | UNIT / LOCATION AVERAGES | | | | | | UNIVERSAL AVERAGES |
|---|---|---|---|---|---|---|---|---|
| MI/HR on Oil | 10,436 | | 5,214 | 1,000 | | | | |
| MI/HR on Unit | 20,280 | | 6,214 | 1,000 | | | | |
| Sample Date | 04/01/13 | | 06/22/12 | 03/23/12 | | | | |
| Make Up Oil Added | 0 qts | | | 0 qts | | | | |
| | | | | | | | | |
| ALUMINUM | **9** | 8 | **7** | 6 | | | | 4 |
| CHROMIUM | 1 | 1 | 0 | 0 | | | | 0 |
| IRON | 10 | 11 | 12 | 5 | | | | 10 |
| COPPER | **11** | 39 | **67** | **64** | | | | 1 |
| LEAD | 1 | 2 | 2 | 2 | | | | 0 |
| TIN | 2 | 2 | 1 | 2 | | | | 1 |
| MOLYBDENUM | 104 | 104 | 104 | 101 | | | | 77 |
| NICKEL | 1 | 1 | 1 | 0 | | | | 0 |
| MANGANESE | 1 | 2 | 2 | 2 | | | | 0 |
| SILVER | 0 | 0 | 0 | 0 | | | | 0 |
| TITANIUM | 0 | 0 | 0 | 0 | | | | 1 |
| POTASSIUM | 4 | 3 | 2 | 6 | | | | 2 |
| BORON | 3 | 4 | 4 | 3 | | | | 48 |
| SILICON | **45** | 121 | **196** | **182** | | | | 14 |
| SODIUM | 4 | 5 | 5 | 0 | | | | 29 |
| CALCIUM | 2295 | 2206 | 2116 | 2136 | | | | 2212 |
| MAGNESIUM | 10 | 13 | 15 | 24 | | | | 88 |
| PHOSPHORUS | 698 | 708 | 718 | 719 | | | | 664 |
| ZINC | 852 | 815 | 777 | 749 | | | | 786 |
| BARIUM | 1 | 3 | 4 | 4 | | | | 0 |

**PROPERTIES**

| | | Values Should Be* | | | | | |
|---|---|---|---|---|---|---|---|
| SUS Viscosity @ 210°F | 50.7 | 46-59 | 48.9 | 48.7 | | | |
| cSt Viscosity @ 100°C | 7.49 | 6.0-10.2 | 6.93 | 6.87 | | | |
| Flashpoint in °F | 380 | >355 | 380 | 380 | | | |
| Fuel % | <0.5 | <2.0 | <0.5 | <0.5 | | | |
| Antifreeze % | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| Water % | 0.0 | <0.1 | 0.0 | 0.0 | | | |
| Insolubles % | 0.3 | <0.6 | 0.2 | 0.1 | | | |
| TBN | 2.3 | >1.0 | 3.7 | 8.0 | | | |
| TAN | | | | | | | |
| ISO Code | | | | | | | |

*** THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE**

**416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com**

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LIABILITY LIMITED TO COST OF ANALYSIS