



OIL REPORT

LAB NUMBER: S054844

UNIT ID: 04 M3

REPORT DATE: 5/9/2024

CLIENT ID: 97667

CODE: 20/1,430

PAYMENT: CC Online

| | | |
|------|-------------------------------------|-----------------------------------|
| UNIT | MAKE/MODEL: BMW 3.2L (S54B32) I-6 | OIL TYPE & GRADE: Red Line 15W/50 |
| | FUEL TYPE: Gasoline (Unleaded) | OIL USE INTERVAL: 1,738 Miles |
| | ADDITIONAL INFO: Track use and HPDE | |

| | | |
|--------|------------------|---------------------------|
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| COMMENTS | MEELOD: Thanks for your notes. Not serious problems stick out in this data. Changing the oil after 5-6 track events helped keep most wear metals to low, typical levels. The most notable finding is an oddly high tin reading. That's a parts coating and/or bronze alloy, and it doesn't look like a problem since other metals aren't very high. The low viscosity doesn't look like a problem, either. The oil wasn't thinned by excess fuel dilution, and no notable dirt or water contamination was found. The TBN shows there's still plenty of active additive left. You could try 7-8 events next oil. |
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| ELEMENTS IN PARTS PER MILLION | MI/HR on Oil | 1,738 | UNIT / LOCATION AVERAGES | 2,633 | 1,352 | | | | UNIVERSAL AVERAGES |
|-------------------------------|-------------------|-----------|--------------------------------|-----------|-----------|--|--|--|-----------------------|
| | MI/HR on Unit | 187,161 | | 185,423 | 182,799 | | | | |
| | Sample Date | 4/14/2024 | | 6/17/2023 | 5/14/2022 | | | | |
| | Make Up Oil Added | 1 qt | | 0.90 qts | 0.26 qts | | | | |
| | ALUMINUM | 3 | 4 | 4 | 4 | | | | 4 |
| | CHROMIUM | 0 | 0 | 0 | 0 | | | | 0 |
| | IRON | 7 | 8 | 7 | 9 | | | | 9 |
| | COPPER | 4 | 5 | 5 | 5 | | | | 8 |
| | LEAD | 3 | 2 | 1 | 1 | | | | 6 |
| | TIN | 4 | 1 | 0 | 0 | | | | 0 |
| | MOLYBDENUM | 359 | 187 | 93 | 109 | | | | 106 |
| | NICKEL | 0 | 0 | 0 | 0 | | | | 0 |
| | MANGANESE | 1 | 1 | 1 | 1 | | | | 1 |
| | SILVER | 0 | 0 | 0 | 0 | | | | 0 |
| | TITANIUM | 0 | 0 | 0 | 0 | | | | 11 |
| | POTASSIUM | 0 | 0 | 0 | 1 | | | | 1 |
| | BORON | 51 | 38 | 29 | 35 | | | | 56 |
| | SILICON | 7 | 6 | 5 | 5 | | | | 6 |
| | SODIUM | 7 | 5 | 4 | 5 | | | | 7 |
| | CALCIUM | 3029 | 3162 | 2888 | 3569 | | | | 2508 |
| | MAGNESIUM | 16 | 13 | 10 | 14 | | | | 121 |
| | PHOSPHORUS | 1054 | 977 | 852 | 1026 | | | | 864 |
| | ZINC | 1169 | 1101 | 934 | 1200 | | | | 1001 |
| | BARIUM | 0 | 0 | 0 | 0 | | | | 0 |

Values
Should Be*

| | | | | | | | | |
|------------|-----------------------|-------|-----------|-------|-------|--|--|--|
| PROPERTIES | SUS Viscosity @ 210°F | 71.9 | 79-96 | 89.0 | 89.8 | | | |
| | cSt Viscosity @ 100°C | 13.44 | 15.3-19.7 | 17.73 | 17.92 | | | |
| | Flashpoint in °F | 425 | >385 | 415 | 420 | | | |
| | 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 | 7.9 | >1.0 | | | | | |
| | TAN | | | | | | | |
| | ISO Code | | | | | | | |

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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