



P.O. NUMBER CC: Visa (Prepaid)  
CODE: 20/13187/121

UNIT NUMBER MROADSTER  
REPORT DATE: 7/11/05  
LAB NUMBER: C49555

## OIL REPORT

|        |                             |                        |
|--------|-----------------------------|------------------------|
| CLIENT | CONTACT:                    | PHONE: (734) 332-0344  |
|        | NAME: DANIEL W MCROBB       | FAX:                   |
|        | ADDRESS: 5917 LOCH LODEN DR | E-MAIL: dwm@mcplex.net |
|        | DEXTER, MI 48130            |                        |

|      |                                  |                                      |
|------|----------------------------------|--------------------------------------|
| UNIT | EQUIPMENT MAKE: BMW              | OIL USE INTERVAL: 3,445 Miles        |
|      | EQUIPMENT MODEL: 3.2L I-6 (S-54) | OIL TYPE & GRADE: Castrol TWS 10W/60 |
|      | FUEL TYPE: Gasoline (Unleaded)   | MAKE-UP OIL ADDED: 0 qts             |
|      | ADDITIONAL INFO:                 |                                      |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMMENTS | DANIEL: It's been about a year since we've seen an oil from this engine and in the meantime, nothing of significance has changed. Wear reads better than average and shows no new problems developing in your Roadster. This oil could have been run longer so you may want to consider going to 4000-4500 miles oil use for the next sample. Air and oil filtration were functioning normally while this oil was in use. The TBN read 3.4, not much active additive left. We found no gas, moisture or anti-freeze in this sample. Nice engine! |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                               |               |          |                          |          |          |  |  |  |                    |
|-------------------------------|---------------|----------|--------------------------|----------|----------|--|--|--|--------------------|
| ELEMENTS IN PARTS PER MILLION | MI/HR ON OIL  | 3,445    | UNIT / LOCATION AVERAGES | 4,312    | 3,476    |  |  |  | UNIVERSAL AVERAGES |
|                               | MI/HR ON UNIT | 20,087   |                          | 17,362   | 9,033    |  |  |  |                    |
|                               | SAMPLE DATE   | 07/05/05 |                          | 09/13/04 | 07/24/03 |  |  |  |                    |
|                               | ALUMINUM      | 5        | 5                        | 5        | 5        |  |  |  | 5                  |
|                               | CHROMIUM      | 0        | 0                        | 0        | 1        |  |  |  | 1                  |
|                               | IRON          | 7        | 10                       | 9        | 13       |  |  |  | 11                 |
|                               | COPPER        | 4        | 5                        | 4        | 8        |  |  |  | 7                  |
|                               | LEAD          | 2        | 2                        | 2        | 3        |  |  |  | 3                  |
|                               | TIN           | 0        | 1                        | 1        | 2        |  |  |  | 1                  |
|                               | MOLYBDENUM    | 2        | 2                        | 1        | 2        |  |  |  | 16                 |
|                               | NICKEL        | 0        | 0                        | 0        | 1        |  |  |  | 1                  |
|                               | MANGANESE     | 1        | 4                        | 3        | 7        |  |  |  | 2                  |
|                               | SILVER        | 0        | 0                        | 0        | 0        |  |  |  | 0                  |
|                               | TITANIUM      | 0        | 0                        | 0        | 0        |  |  |  | 0                  |
|                               | POTASSIUM     | 2        | 1                        | 0        | 0        |  |  |  | 1                  |
|                               | BORON         | 119      | 113                      | 116      | 103      |  |  |  | 89                 |
|                               | SILICON       | 5        | 5                        | 6        | 5        |  |  |  | 6                  |
|                               | SODIUM        | 1        | 3                        | 4        | 3        |  |  |  | 4                  |
|                               | CALCIUM       | 1810     | 1620                     | 1454     | 1596     |  |  |  | 1709               |
|                               | MAGNESIUM     | 760      | 655                      | 570      | 636      |  |  |  | 521                |
|                               | PHOSPHORUS    | 944      | 887                      | 854      | 864      |  |  |  | 808                |
|                               | ZINC          | 1145     | 1016                     | 1001     | 903      |  |  |  | 960                |
|                               | BARIUM        | 0        | 0                        | 0        | 0        |  |  |  | 0                  |

|            |                    |                       |                        |                 |                        |                        |                  |        |              |         |              |
|------------|--------------------|-----------------------|------------------------|-----------------|------------------------|------------------------|------------------|--------|--------------|---------|--------------|
| PROPERTIES | TEST               | cST VISCOSITY @ 40 °C | SUS VISCOSITY @ 100 °F | VISCOSITY INDEX | cST VISCOSITY @ 100 °C | SUS VISCOSITY @ 210 °F | FLASHPOINT IN °F | FUEL % | ANTIFREEZE % | WATER % | INSOLUBLES % |
|            | VALUES SHOULD BE   |                       |                        |                 |                        | 87-98                  | >375             | <1.0   | 0            | 0.0     | <0.6         |
|            | TESTED VALUES WERE |                       |                        |                 |                        | 90.6                   | 395              | <0.5   | 0.0          | 0.0     | 0.1          |