

Lubricant Inspection Report



METRO TECH SYSTEMS LTD

Petroleum Products Consultants

Bay 112, 5621 - 11th Street N.E.

Calgary, Alberta T2E 6Z7

Telephone (403) 295-8803 Fax (403) 295-3848

eMail metrotech@metrotechsystems.ca

ISO 9001:
Registered Firm

Client
Location
Unit Number
Component
Make / Model
Serial #

2017 TACOMA
Front Differential
TOYOTA TACOMA 2017 TRD S

| | | |
|---|------------------|------------------|
| Lab Number: | ZJ1635 | New Oil |
| Sample Date: | Oct 09/19 | Jul 23/20 |
| Unit: | 92000.0 Km | |
| Oil: | 40000.0 Km | |
| Oil Type: | AMSOIL 75W90 GL4 | AMSOIL 75W90 GL4 |
| METALS (D5185): Milligrams per Kilogram (PPM) | | |
| Highlighted Test Results Indicate Abnormal Concentrations | | |
| Tin | 0 | 0 |
| Lead | 1 | 2 |
| Copper | 1 | 0.2 |
| Aluminum | 0.6 | 0 |
| Silicon | 15 | 1 |
| Iron | 73 | 0.4 |
| Chromium | 1 | 0 |
| Silver | 0 | 0 |
| Zinc | 12 | 10 |
| Magnesium | 0.4 | 1 |
| Nickel | 1 | 0 |
| Barium | 0 | 0 |
| Sodium | 1 | 0 |
| Calcium | 0 | 275 |
| Vanadium | 0 | 0 |
| Phosphorus | 739 | 531 |
| Molybdenum | 0 | 0 |
| Boron | 68 | 9 |
| Manganese | 4 | 0 |
| PHYSICAL PROPERTIES | | |
| Viscosity (D445) @ 40C | | |
| Viscosity (D445) @ 100C | 14.25 | 13.84 |
| Water (D4007) (% v/v) | 0 | 0 |
| Solids (D4007) (% v/v) | <0.1 | 0 |
| Glycol | | |
| Fuel Dilution | | |
| OTHER PROPERTIES | | |
| Acid No. (D664) | | |
| Base No. (D2896) | | |
| Base No. (D4739) | | |
| Oxidation | | |
| Nitro Compounds | | |
| Organic Nitrates | | |
| Particle Count(ISO 4406) | | |
| Oil Changed? | YES | |
| COMMENTS RATING SYSTEM: A is LOW B is LOW to MODERATE C is MODERATE D is HIGH E is SEVERE | | |
| ZJ1635 - Tests DO NOT indicate an immediate need for an oil change.Low alloy steel wear (A).Please verify oil type.Maintain routine sampling. | | |
| <p>Laboratory Telephone (403) 295-8803 Results were verified on Oct 09/19 by F Saiad Shirabad 108016 01</p> <p style="text-align: right;">Metro Tech Systems Ltd</p> | | |

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Client
 Location
 Unit Number
 Component
 Make / Model
 Serial #

2017 TACOMA
Rear Differential
 TOYOTA TACOMA 2017 TRD S

| Lab Number: | Y12256 | ZJ1636 | New Oil |
|--|--------------|------------------|------------------|
| Sample Date: | Sep 17/18 | Oct 09/19 | Jul 23/20 |
| Unit: | 43000.0 Km | 92000.0 Km | |
| Oil: | 30000.0 Km | 16000.0 Km | |
| Oil Type: | AMSOIL 80W90 | AMSOIL 75W90 GL4 | AMSOIL 75W90 GL4 |
| METALS (D5185): Milligrams per Kilogram (PPM) | | | |
| Highlighted Test Results Indicate Abnormal Concentrations | | | |
| Tin | 0 | 0 | 0 |
| Lead | 1 | 1 | 2 |
| Copper | 0.5 | 0.6 | 0.2 |
| Aluminum | 0.5 | 0 | 0 |
| Silicon | 5 | 4 | 1 |
| Iron | 130 | 174 | 0.4 |
| Chromium | 1 | 1 | 0 |
| Silver | 0 | 0 | 0 |
| Zinc | 6 | 4 | 10 |
| Magnesium | 1 | 0 | 1 |
| Nickel | 1 | 0 | 0 |
| Barium | 0 | 0 | 0 |
| Sodium | 2 | 1 | 0 |
| Calcium | 10 | 2 | 275 |
| Vanadium | 0 | 0 | 0 |
| Phosphorus | 694 | 696 | 531 |
| Molybdenum | 0 | 0 | 0 |
| Boron | 46 | 60 | 9 |
| Manganese | 3 | 3 | 0 |
| PHYSICAL PROPERTIES | | | |
| Viscosity (D445) @ 40C | | | |
| Viscosity (D445) @ 100C | 14.36 | 14.15 | 13.84 |
| Water (D4007) (% v/v) | 0 | 0 | 0 |
| Solids (D4007) (% v/v) | <0.1 | 0.2 | 0 |
| Glycol | | | |
| Fuel Dilution | | | |
| OTHER PROPERTIES | | | |
| Acid No. (D664) | | | |
| Base No. (D2896) | | | |
| Base No. (D4739) | | | |
| Oxidation | | | |
| Nitro Compounds | | | |
| Organic Nitrates | | | |
| Particle Count(ISO 4406) | | | |
| Oil Changed? | No | YES | |
| COMMENTS RATING SYSTEM: A is LOW B is LOW to MODERATE C is MODERATE D is HIGH E is SEVERE | | | |
| Y12256 - Tests DO NOT indicate an immediate need for an oil change.Low alloy steel wear (A).Send in New Oil for Reference.Maintain routine sampling. ZJ1636 - Low alloy steel wear (B).Mixed oils.Please verify oil type.Oil okay if solids are removed | | | |
| Laboratory Telephone (403) 295-8803 Results were verified on Oct 09/19 by F Saiaid Shirabad 108016 01 | | | |

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Client
 Location
 Unit Number
 Component
 Make / Model
 Serial #

Calgary
 GLADIATOR REAR
 Differential
 JEEP GLADIATOR

| | ZZ2194 | ZZ9188 | No Ref |
|---|-----------------|-----------------|--------|
| Lab Number: | ZZ2194 | ZZ9188 | |
| Sample Date: | May 07/21 | Dec 01/21 | |
| Unit: | 10079.0 Km | 30000.0 Km | |
| Oil: | 9079.0 Kms | 21000.0 Km | |
| Oil Type: | AMSOIL 75W90GL5 | AMSOIL 75W90GL5 | |
| METALS (D5185): Milligrams per Kilogram (PPM) | | | |
| Highlighted Test Results Indicate Abnormal Concentrations | | | |
| Tin | 1 | 1 | |
| Lead | 1 | 1 | |
| Copper | 1 | 0.9 | |
| Aluminum | 0.6 | 0 | |
| Silicon | 37 | 32 | |
| Iron | 259 | 209 | |
| Chromium | 2 | 1 | |
| Silver | 0 | 0 | |
| Zinc | 11 | 10 | |
| Magnesium | 2 | 0.9 | |
| Nickel | 1 | 0 | |
| Barium | 0 | 0 | |
| Sodium | 1 | 2 | |
| Calcium | 31 | 13 | |
| Vanadium | 0 | 0 | |
| Phosphorus | 759 | 518 | |
| Molybdenum | 4 | 1 | |
| Boron | 74 | 50 | |
| Manganese | 6 | 3 | |
| PHYSICAL PROPERTIES | | | |
| Viscosity (D445) @ 40C | | | |
| Viscosity (D445) @ 100C | 14.24 | 14.15 | |
| Water (D4007) (% v/v) | 0 | 0 | |
| Solids (D4007) (% v/v) | <0.1 | <0.1 | |
| Glycol | | | |
| Fuel Dilution | | | |
| OTHER PROPERTIES | | | |
| Acid No. (D664) | | | |
| Base No. (D2896) | | | |
| Base No. (D4739) | | | |
| Oxidation | | | |
| Nitro Compounds | | | |
| Organic Nitrates | | | |
| Particle Count(ISO 4406) | | | |
| Oil Changed? | YES | YES | |
| COMMENTS RATING SYSTEM: A is LOW B is LOW to MODERATE C is MODERATE D is HIGH E is SEVERE | | | |
| ZZ2194 - Tests DO NOT indicate an immediate need for an oil change.Silicones (A).Low alloy steel wear (B).Maintain routine sampling.** See ZZ2195 report for metal piece ** ZZ9188 - Tests DO NOT indicate an immediate need for an oil change.Silicones (A).Low alloy steel wear (B).Send in New Oil for Reference.Maintain routine sampling. | | | |

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Client
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 Unit Number
 Component
 Make / Model
 Serial #

Calgary
 GLADIATOR FRONT
 Differential
 JEEP GLADIATOR

3

| | | | |
|---|-----------------|-----------------|---------------|
| Lab Number: | ZZ2193 | ZZ9187 | No Ref |
| Sample Date: | May 07/21 | Dec 01/21 | |
| Unit: | 10079.0 Km | 30000.0 Km | |
| Oil: | 9079.0 Kms | 21000.0 Km | |
| Oil Type: | AMSOIL 75W90GL5 | AMSOIL 75W90GL5 | |
| METALS (D5185): Milligrams per Kilogram (PPM) | | | |
| Highlighted Test Results Indicate Abnormal Concentrations | | | |
| Tin | 0 | 1 | |
| Lead | 1 | 1 | |
| Copper | 0.3 | 0.2 | |
| Aluminum | 0.7 | 0.3 | |
| Silicon | 45 | 30 | |
| Iron | 42 | 42 | |
| Chromium | 0.8 | 1 | |
| Silver | 0 | 0 | |
| Zinc | 13 | 17 | |
| Magnesium | 2 | 2 | |
| Nickel | 0 | 0 | |
| Barium | 0 | 0 | |
| Sodium | 3 | 2 | |
| Calcium | 8 | 6 | |
| Vanadium | 0 | 0 | |
| Phosphorus | 660 | 464 | |
| Molybdenum | 2 | 1 | |
| Boron | 46 | 28 | |
| Manganese | 4 | 2 | |
| PHYSICAL PROPERTIES | | | |
| Viscosity (D445) @ 40C | | | |
| Viscosity (D445) @ 100C | 14.86 | 14.31 | |
| Water (D4007) (% v/v) | 0 | 0 | |
| Solids (D4007) (% v/v) | 0 | <0.1 | |
| Glycol | | | |
| Fuel Dilution | | | |
| OTHER PROPERTIES | | | |
| Acid No. (D664) | | | |
| Base No. (D2896) | | | |
| Base No. (D4739) | | | |
| Oxidation | | | |
| Nitro Compounds | | | |
| Organic Nitrates | | | |
| Particle Count(ISO 4406) | | | |
| Oil Changed? | YES | YES | |
| COMMENTS RATING SYSTEM: A is LOW B is LOW to MODERATE C is MODERATE D is HIGH E is SEVERE | | | |
| ZZ2193 - Tests DO NOT indicate an immediate need for an oil change.Silicones (B).Maintain routine sampling. | | | |
| ZZ9187 - Tests DO NOT indicate an immediate need for an oil change.Silicones (A).Send in New Oil for Reference.Maintain routine sampling. | | | |
| Laboratory Telephone (403) 295-8803 | | | |
| Results were verified on Dec 02/21 by F Saiad Shirabad | | | |
| 108016 01 | | | |