

OIL ANALYSIS REPORT

Sample Rating Trend





CATERPILLAR D6 LGP 10039 (S/N KEW01125)

Component **Diesel Engine**

PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

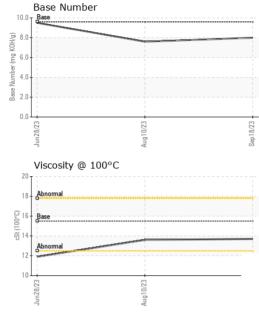
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|--|--|--|---|---|--|---|
| Sample Number | | Client Info | | WC0831337 | WC0837182 | WC0790999 |
| Sample Date | | Client Info | | 18 Sep 2023 | 10 Aug 2023 | 28 Jun 2023 |
| Machine Age | hrs | Client Info | | 1701 | 1207 | 558 |
| Oil Age | hrs | Client Info | | 494 | 649 | 558 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | ABNORMAL | ATTENTION |
| CONTAMINATION | ٧ | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | 0.2 |
| Glycol | | WC Method | | NEG | NEG | NEG |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 26 | 36 | 52 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | 1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 3 | 1 | 5 |
| Lead | ppm | ASTM D5185m | >40 | 2 | <1 | 11 |
| Copper | ppm | ASTM D5185m | >330 | 130 | <u>▲</u> 573 | 114 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | 4 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | nnm | ASTM D5185m | | 0 | 0 | 0 |
| Gauriiuiii | ppm | ASTIVI DSTOSIII | | U | U | 0 |
| ADDITIVES | ррпі | method | limit/base | current | history1 | history2 |
| | ррт | | limit/base | | | |
| ADDITIVES | | method ASTM D5185m | | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 1 | current | history1 | history2 |
| ADDITIVES Boron Barium | ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 1 | current <1 | history1 <1 0 | history2 30 6 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 1 1 60 | current <1 0 64 | history1 <1 0 63 | history2 30 6 46 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 1 1 60 1 | current <1 0 64 <1 | history1 <1 0 63 0 | history2 30 6 46 4 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 1 1 60 1 1010 | current <1 0 64 <1 890 | history1 <1 0 63 0 1046 | history2 30 6 46 4 625 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | method ASTM D5185m | 1 1 60 1 1010 1070 | current <1 0 64 <1 890 1130 | history1 <1 0 63 0 1046 1345 | history2 30 6 46 4 625 1618 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 1 1 60 1 1010 1070 1150 | current <1 0 64 <1 890 1130 982 | history1 <1 0 63 0 1046 1345 1123 | history2 30 6 46 4 625 1618 938 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 1 1 60 1 1010 1070 1150 1270 | current <1 0 64 <1 890 1130 982 1240 | history1 <1 0 63 0 1046 1345 1123 1521 | history2 30 6 46 4 625 1618 938 1218 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 1 1 60 1 1010 1070 1150 1270 2060 | current <1 0 64 <1 890 1130 982 1240 3012 | history1 <1 0 63 0 1046 1345 1123 1521 3892 | history2 30 6 46 4 625 1618 938 1218 3219 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 1 1 60 1 1010 1070 1150 1270 2060 limit/base | current <1 0 64 <1 890 1130 982 1240 3012 current | history1 <1 0 63 0 1046 1345 1123 1521 3892 history1 | history2 30 6 46 4 625 1618 938 1218 3219 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 1 1 60 1 1010 1070 1150 1270 2060 limit/base | current <1 0 64 <1 890 1130 982 1240 3012 current 5 | history1 <1 0 63 0 1046 1345 1123 1521 3892 history1 10 | history2 30 6 46 4 625 1618 938 1218 3219 history2 41 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 1 1 60 1 1010 1070 1150 1270 2060 limit/base | current <1 0 64 <1 890 1130 982 1240 3012 current 5 | history1 <1 0 63 0 1046 1345 1123 1521 3892 history1 10 0 | history2 30 6 46 4 625 1618 938 1218 3219 history2 41 4 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 1 1 60 1 1010 1070 1150 1270 2060 limit/base >25 | current <1 0 64 <1 890 1130 982 1240 3012 current 5 1 <1 | history1 <1 0 63 0 1046 1345 1123 1521 3892 history1 10 0 | history2 30 6 46 4 625 1618 938 1218 3219 history2 41 4 3 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m method | 1 1 60 1 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 | current <1 0 64 <1 890 1130 982 1240 3012 current 5 1 <1 current | history1 <1 0 63 0 1046 1345 1123 1521 3892 history1 10 0 history1 | history2 30 6 46 4 625 1618 938 1218 3219 history2 41 4 3 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m method ASTM D5185m | 1 1 60 1 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 | current <1 0 64 <1 890 1130 982 1240 3012 current 5 1 <1 current | history1 <1 0 63 0 1046 1345 1123 1521 3892 history1 10 0 history1 0.9 | history2 30 6 46 4 625 1618 938 1218 3219 history2 41 4 3 history2 0.6 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m method *ASTM D5185m ASTM D5185m | 1 1 60 1 1010 1070 1150 1270 2060 limit/base >25 >20 | current <1 0 64 <1 890 1130 982 1240 3012 current 5 1 <1 current 0.9 7.7 | history1 <1 0 63 0 1046 1345 1123 1521 3892 history1 10 0 history1 0.9 8.4 | history2 30 6 46 4 625 1618 938 1218 3219 history2 41 4 3 history2 0.6 8.5 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m method *ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 | 1 | current <1 0 64 <1 890 1130 982 1240 3012 current 5 1 <1 current 0.9 7.7 20.0 | history1 <1 0 63 0 1046 1345 1123 1521 3892 history1 10 0 history1 0.9 8.4 19.7 | history2 30 6 46 4 625 1618 938 1218 3219 history2 41 4 3 history2 0.6 8.5 23.6 |

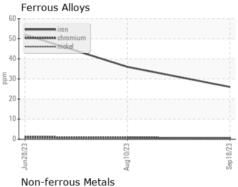


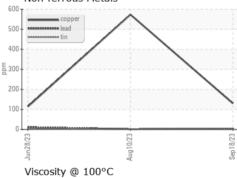
OIL ANALYSIS REPORT

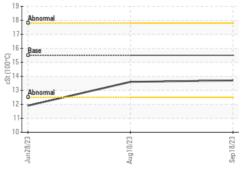


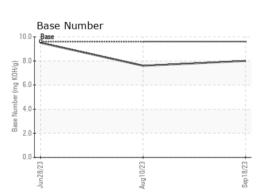
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|-----------|------------|---------|----------|---------------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| FLUID PROPERT | TES | method | limit/base | current | history1 | history2 |
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | 13.7 | 13.6 | <u>▲</u> 11.9 |

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Laboratory Sample No. Lab Number Unique Number : 10671617

: 05965066

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0831337

Received Diagnosed

: 29 Sep 2023 : 02 Oct 2023 Diagnostician : Wes Davis

Test Package : CONST (Additional Tests: TBN)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Report Id: TRANEW [WUSCAR] 05965066 (Generated: 10/05/2023 00:56:38) Rev: 1

Contact/Location: MIKE WYATT - TRANEW