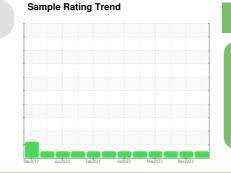


OIL ANALYSIS REPORT

SAMPLE INFORMATION method





NORMAL

Machine Id FREIGHTLINER 388040

Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

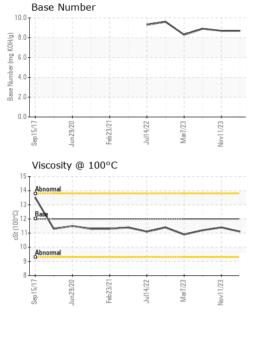
Fluid Condition

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

| SAMIFLE INFURI | | method | iiiiii/base | current | TIIStOLA | TIIStory2 | |
|--|---|--|--|---|---|---|--|
| Sample Number | | Client Info | | PCA0120652 | PCA0104255 | PCA0101281 | |
| Sample Date | | Client Info | | 13 Mar 2024 | 11 Nov 2023 | 20 Jul 2023 | |
| Machine Age | mls | Client Info | | 93175 | 91525 | 87965 | |
| Oil Age | mls | Client Info | | 0 | 0 | 0 | |
| Oil Changed | | Client Info | | Changed | Changed | Changed | |
| Sample Status | | | | NORMAL | NORMAL | NORMAL | |
| · · · · · · · · · · · · · · · · · · · | | | | Nonimae | | NOTIWITE | |
| CONTAMINAT | ION | method | limit/base | current | history1 | history2 | |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 | |
| Water | | WC Method | >0.2 | NEG | NEG | NEG | |
| Glycol | | WC Method | | NEG | NEG | NEG | |
| WEAR METALS | | method | limit/base | current | history1 | history2 | |
| Iron | ppm | ASTM D5185m | >80 | 15 | 21 | 20 | |
| Chromium | ppm | | >5 | 0 | <1 | <1 | |
| Nickel | ppm | ASTM D5185m | >2 | 0 | <1 | <1 | |
| Titanium | ppm | ASTM D5185m | _ | <1 | 0 | 0 | |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 | |
| Aluminum | ppm | ASTM D5185m | | 2 | 4 | 5 | |
| Lead | ppm | ASTM D5185m | >30 | 0 | 0 | 0 | |
| Copper | ppm | ASTM D5185m | | ۰ <1 | <1 | <1 | |
| Tin | ppm | | >5 | 0 | 0 | 0 | |
| Vanadium | ppm | ASTM D5185m | 20 | <1 | 0 | 0 | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 | |
| | ppm | | L'and the states | | - | - | |
| ADDITIVES | | method | | | | history2 | |
| _ | | | _ | | | | |
| Boron | ppm | ASTM D5185m | 2 | 6 | 30 | 9 | |
| Barium | ppm ppm | ASTM D5185m | 0 | 0 | 30 0 | 9 <1 | |
| Barium Molybdenum | | ASTM D5185m ASTM D5185m | 0 50 | 0 62 | 30 0 59 | 9 <1 63 | |
| Barium Molybdenum Manganese | ppm | ASTM D5185m ASTM D5185m | 0 | 0 | 30 0 59 <1 | 9 <1 63 <1 | |
| Barium Molybdenum | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 | 0 62 <1 974 | 30 0 59 <1 864 | 9 <1 63 <1 898 | |
| Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 1050 | 0 62 <1 | 30 0 59 <1 | 9 <1 63 <1 898 1121 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 | 0 62 <1 974 | 30 0 59 <1 864 1166 1065 | 9 <1 63 <1 898 1121 1029 | |
| Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 1050 | 0 62 <1 974 1145 | 30 0 59 <1 864 1166 | 9 <1 63 <1 898 1121 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 | 0 62 <1 974 1145 1043 | 30 0 59 <1 864 1166 1065 | 9 <1 63 <1 898 1121 1029 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 | 0 62 <1 974 1145 1043 1223 | 30 0 59 <1 864 1166 1065 1282 | 9 <1 63 <1 898 1121 1029 1215 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 | 0 62 <1 974 1145 1043 1223 3735 | 30 0 59 <1 864 1166 1065 1282 3259 | 9 <1 63 <1 898 1121 1029 1215 3089 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 | 0 62 <1 974 1145 1043 1223 3735 current | 30 0 59 <1 864 1166 1065 1282 3259 history1 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm ppm TS | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 | 0 62 <1 974 1145 1043 1223 3735 current 4 | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m | 0 50 0 950 1050 995 1180 2600 limit/base >20 | 0 62 <1 974 1145 1043 1223 3735 current 4 1 | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 2 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 0 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 imit/base >20 } | 0 62 <1 974 1145 1043 1223 3735 current 4 1 2 current | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 2 6 history1 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 0 4 history2 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm | ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >20 <i>limit/base</i> >3 | 0 62 <1 974 1145 1043 1223 3735 <u>current</u> 4 1 2 2 <u>current</u> 0.1 | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 2 6 history1 0.2 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 0 4 history2 0.3 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm | ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 imit/base >20 >20 imit/base >3 >20 | 0 62 <1 974 1145 1043 1223 3735 <u>current</u> 4 1 2 2 <u>current</u> 0.1 5.9 | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 2 6 history1 0.2 6.6 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 0 4 history2 0.3 6.9 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 imit/base >3 | 0 62 <1 974 1145 1043 1223 3735 <u>current</u> 4 1 2 <u>current</u> 0.1 5.9 17.2 | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 2 6 history1 0.2 6.6 18.1 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 0 4 history2 0.3 6.9 18.0 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 imit/base >20 >20 imit/base >3 >20 | 0 62 <1 974 1145 1043 1223 3735 <u>current</u> 4 1 2 2 <u>current</u> 0.1 5.9 | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 2 6 history1 0.2 6.6 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 0 4 history2 0.3 6.9 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 0 50 0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 imit/base >3 | 0 62 <1 974 1145 1043 1223 3735 <u>current</u> 4 1 2 <u>current</u> 0.1 5.9 17.2 | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 2 6 history1 0.2 6.6 18.1 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 0 4 history2 0.3 6.9 18.0 | |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE | ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 | 0 50 0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 >30 | 0 62 <1 974 1145 1043 1223 3735 current 4 1 2 current 0.1 5.9 17.2 current | 30 0 59 <1 864 1166 1065 1282 3259 history1 4 2 6 history1 0.2 6.6 18.1 history1 | 9 <1 63 <1 898 1121 1029 1215 3089 history2 3 0 4 history2 0.3 6.9 18.0 history2 | |



OIL ANALYSIS REPORT



| | | VISUAL | | method | limit/base | current | history1 | l | nistory2 |
|----------------|---------------------|--|-------------------|--|---|------------------------|---|---------|----------|
| | | White Metal | scalar | *Visual | NONE | NONE | NONE | N | ONE |
| | | Yellow Metal | scalar | *Visual | NONE | NONE | NONE | N | ONE |
| | | Precipitate | scalar | *Visual | NONE | NONE | NONE | N | ONE |
| | Silt | scalar | *Visual | NONE | NONE | NONE | N | ONE | |
| | | Debris | scalar | *Visual | NONE | NONE | NONE | N | ONE |
| | | Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | N | ONE |
| Jul14/22 | Mar7/23 Nov11/23 | Appearance | scalar | *Visual | NORML | NORML | NORML | N | ORML |
| Jul | Nov | Odor | scalar | *Visual | NORML | NORML | NORML | N | ORML |
| | | Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | N | EG |
| | | Free Water | scalar | *Visual | | NEG | NEG | N | EG |
| | | FLUID PROPE | RTIES | method | limit/base | current | history1 | | nistory2 |
| ~~~ | | Visc @ 100°C | cSt | ASTM D445 | 12.00 | 11.1 | 11.4 | 11 | .2 |
| | | GRAPHS | | | | | | | |
| | | Iron (ppm) | | | | Lead (ppm) | | | |
| 3 | | 150 Severe | | | 80 | Smirm | | | |
| Jul14/22 | Mar7/23 Nov11/23 | 100 Abnormal | | | 60 | | | | |
| 7 | - 2 | dd | | 1 | 톱 40 | Abnormal | | | |
| | | 50 | | 1 | 20 | - | | | |
| | | | | | | | | | |
| | | Sep 15/17 Jun 29/20 Feb 23/21 | Jul14/22 | Mar7/23 | Nov1 1/23 | Sep 15/17 Jun 29/20 | Feb23/21 Jul14/22 | Mar7/23 | Nov11/23 |
| | | ÷, _ | Jul | Ξ. | NoN | , | | Mi | Nov |
| | | Aluminum (ppm) | | | Chromium (ppm) | | | | |
| | | 50- | | | 10 | | | | |
| | | 40 E 30 - Abnormal | | | B Ed 6 | Abnormal | | | |
| | | 20 | | | 4 | | | - + | |
| | | 10 | ~ | \sim | 2 | | | | |
| | | 3/21+ | 4/22 - | //23 | | 3/20 | 3/21 | 1/23 - | /23 - |
| | | Sep 15/17 Jun 29/20 Feb 23/21 | Jul14/22 | Mar7/23 | Nov11/23 | Sep15/17 Jun29/20 | Feb23/21 Jul14/22 | Mar7/23 | Nov11/23 |
| | | Copper (ppm) | | | | Silicon (ppm |) | | |
| | | 300 250 | | | 40 | Severe | | | |
| | | 200 - | | | 30 | 1 | | | |
| | | 톱 150 - Abnormal | | | . 톱 20 | Anormal | | | |
| | | 100- | | | 10 | | ~ | | |
| | | 50 | | | 0 | | \sim | | |
| | | Sep 15/17 Jun 29/20 Feb 23/21 | Jul14/22 | Mar7/23 | Nov11/23 | Sep15/17 Jun29/20 | Feb23/21 | Mar7/23 | Nov11/23 |
| | | | | Mē | Nov | | | Ma | Nov |
| | | Viscosity @ 100°C | 2 | | Base Number | | | | |
| | | 14 Abnormal | | | (B)HO 8.0 | | | ~ | |
| | | | | | j 6.0 | | | | |
| | | (2-001) 12 t; | | | ^{ba} g 4.0 | | | | |
| | | 10 Abnormal | | | (b)HOX 8.0 (b)HOX (b) (b)HOX (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c | - | | | |
| | | | 2 | 13 | + 0.0 | | 21+ | | 3 |
| | | Sep15/17 Jun29/20 | Jul14/22 | Mar7/23 | Nov1 1/23 | Sep 15/17 Jun 29/20 | Feb23/21 Jul14/22 | Mar7/23 | Nov11/23 |
| NAB | | : WearCheck USA - 50 : PCA0120652 r : 06136134 | Recei Teste | on Ave., Cary ived : 02 ed : 03 | NC 27513 Apr 2024 Apr 2024 | | MILLER TRUCK LEASING #11 39 INDUSTRIAL AV HASBROUCK HEIGHTS, N | | |
| tificate L2367 | Test Packag | er : 10955599 e : MOB 1 (Additional Te | ests: TBN | gnosed : 03 Apr 2024 - Wes Davis BN) -800-237-1369. cope of accreditation. | | | US 0760 Contact: MIKE LONGETT mlongette@millertransgroup.com T | | |

Contact/Location: MIKE LONGETTE - MILRUT