

OIL ANALYSIS REPORT

Sample Rating Trend

WEAR

Machine Id Navistar 52800

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (40 LTR)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

🔺 Wear

A sharp increase in the iron level is noted.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

| SAMPLE INFORM | ATION | method | limit/base | current | history1 | history2 |
|--|---|---|---|---|--|--|
| Sample Number | | Client Info | | WC0915076 | WC0854816 | WC0864513 |
| Sample Date | | Client Info | | 13 Apr 2024 | 21 Dec 2023 | 08 Oct 2023 |
| Machine Age | mls | Client Info | | 529085 | 660504 | 496012 |
| Oil Age | mls | Client Info | | 33073 | 0 | 32319 |
| Oil Changed | | Client Info | | Changed | N/A | Changed |
| Sample Status | | | | MARGINAL | NORMAL | NORMAL |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >3.0 | <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 |
| PQ | | ASTM D8184* | | 0 | | |
| Iron | ppm | ASTM D5185(m) | >90 | <mark>人</mark> 85 | 2 | 45 |
| Chromium | ppm | ASTM D5185(m) | >20 | 2 | 0 | 2 |
| Nickel | ppm | ASTM D5185(m) | >2 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 6 | 1 | 3 |
| Lead | ppm | ASTM D5185(m) | >40 | 5 | 0 | 18 |
| Copper | ppm | ASTM D5185(m) | >330 | 2 | <1 | 1 |
| Tin | ppm | ASTM D5185(m) | >15 | <1 | 0 | <1 |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185(m) | limit/base | current 1 | history1 9 | history2 2 |
| Boron | ppm ppm | | 2 | | | |
| Boron Barium | | ASTM D5185(m) | 2 | 1 | 9 | 2 |
| Boron Barium Molybdenum | ppm | ASTM D5185(m) ASTM D5185(m) | 2 0 50 | 1 0 | 9 0 | 2 <1 |
| | ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 | 1 0 66 | 9 0 52 | 2 <1 65 |
| Boron Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 0 | 1 0 66 <1 | 9 0 52 0 | 2 <1 65 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 0 950 | 1 0 66 <1 1071 | 9 0 52 0 853 | 2 <1 65 0 1019 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 0 950 1050 | 1 0 66 <1 1071 1156 | 9 0 52 0 853 1194 | 2 <1 65 0 1019 1137 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 0 950 1050 995 | 1 0 66 <1 1071 1156 1073 | 9 0 52 0 853 1194 1028 | 2 <1 65 0 1019 1137 1042 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 950 1050 995 1180 | 1 0 66 <1 1071 1156 1073 1288 | 9 0 52 0 853 1194 1028 1171 | 2 <1 65 0 1019 1137 1042 1286 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 950 1050 995 1180 | 1 0 66 <1 1071 1156 1073 1288 2368 | 9 0 52 0 853 1194 1028 1171 2846 | 2 <1 65 0 1019 1137 1042 1286 2371 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 950 1050 995 1180 2600 | 1 0 66 <1 1071 1156 1073 1288 2368 <1 | 9 0 52 0 853 1194 1028 1171 2846 <1 | 2 <1 65 0 1019 1137 1042 1286 2371 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 2 0 50 950 1050 995 1180 2600 | 1 0 66 <1 1071 1156 1073 1288 2368 <1 current | 9 0 52 0 853 1194 1028 1171 2846 <1 history1 | 2 <1 65 0 1019 1137 1042 1286 2371 <1 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) | 2 0 50 950 1050 995 1180 2600 | 1 0 66 <1 1071 1156 1073 1288 2368 <1 2368 <1 2368 3 | 9 0 52 0 853 1194 1028 1171 2846 <1 kistory1 4 | 2 <1 65 0 1019 1137 1042 1286 2371 <1 kistory2 5 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) | 2 0 50 950 1050 995 1180 2600 limit/base >25 | 1 0 66 <1 1071 1156 1073 1288 2368 <1 2368 <1 2368 <1 | 9 0 52 0 853 1194 1028 1171 2846 <1 history1 4 1 | 2 <1 65 0 1019 1137 1042 1286 2371 <1 <1 history2 5 3 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) | 2 0 50 950 1050 995 1180 2600 limit/base >25 >20 | 1 0 66 <1 1071 1156 1073 1288 2368 <1 2368 <1 2368 3 2 25 | 9 0 52 0 853 1194 1028 1171 2846 <1 kistory1 4 1 4 1 | 2 <1 65 0 1019 1137 1042 1286 2371 <1 kistory2 5 3 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) | 2 0 50 0 950 1050 995 1180 2600 imit/base >25 | 1 0 66 <1 1071 1156 1073 1288 2368 <1 2368 <1 current 3 2 5 5 | 9 0 52 0 853 1194 1028 1171 2846 <1 history1 4 1 <1 <1 history1 | 2 <1 65 0 1019 1137 1042 1286 2371 <1 2371 <1 history2 5 3 <1 history2 |



OIL ANALYSIS REPORT

Abs/.1mm

method

ASTM D7414*

method

limit/base

limit/base

>25

current

current

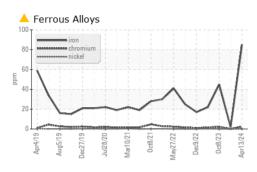
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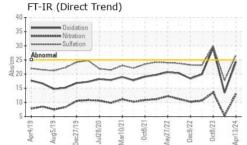
24.4

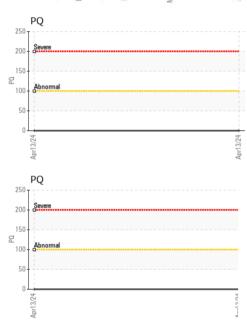
FLUID DEGRADATION

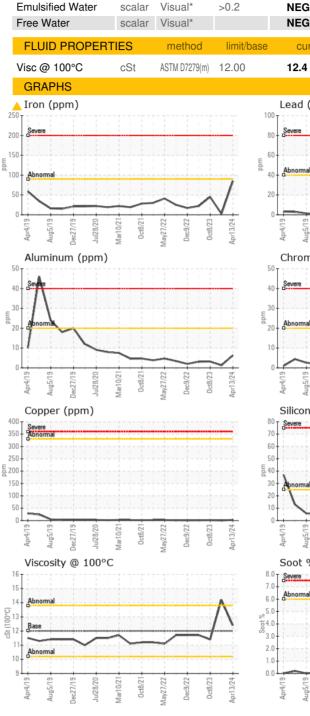
Oxidation

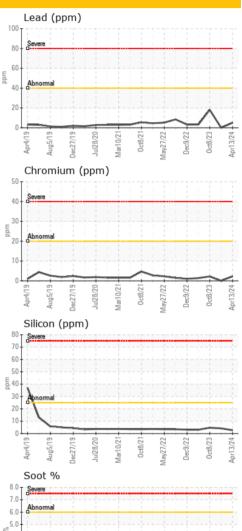
VISUAL











history1

history1

historv1

13.4

NEG

NEG

14.2

history2

history2

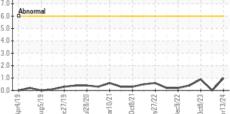
historv2

29.3

NEG

NEG

11.4



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 MANITOULIN TRANSPORT (GARAGE) CALA Sample No. : WC0915076 Received : 17 Apr 2024 1335 SHAWSON DRIVE Lab Number : 02629571 Tested MISSISSAUGA, ON : 18 Apr 2024 ISO 17025:2017 Accredited Unique Number : 5762703 Diagnosed : 18 Apr 2024 - Kevin Marson CA L4W 1C4 Laboratory Test Package : MOB 1 (Additional Tests: PQ) Contact: Travis Spence To discuss this sample report, contact Customer Service at 1-800-268-2131. tspence@manitoulintransport.com Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: Validity of results and interpretation are based on the sample and information as supplied. F: (905)564-6361

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Contact/Location: Travis Spence - MANMIS Page 2 of 2