

NORMAL WEAR CONTAMINATION NORMAL **FLUID CONDITION** NORMAL

Machine Id 8268 Componen **Front Diesel Engine** PETRO CANADA DURON HP 15W40 (22 LTR)

| RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|------------------|----------|---------------|-----------|-------------|-------------|-------------|
| Resample at the next service interval to monitor. | Sample Number | | Client Info | | GFL0117289 | GFL0099552 | GFL0084313 |
| | Sample Date | | Client Info | | 23 May 2024 | 15 Jan 2024 | 04 Aug 2023 |
| | Machine Age | hrs | Client Info | | 15176 | 229000 | 13843 |
| | Oil Age | hrs | Client Info | | 600 | 0 | 579 |
| | Filter Age | hrs | Client Info | | 600 | 0 | 579 |
| | Oil Changed | | Client Info | | Changed | Changed | Changed |
| | Filter Changed | | Client Info | | Changed | Changed | Changed |
| | Sample Status | | | | NORMAL | NORMAL | NORMAL |
| WEAR | | | | | | | |
| WEAN | Iron | ppm | ASTM D5185(m) | | 25 | 35 | 26 |
| All component wear rates are normal. | Chromium | ppm | ASTM D5185(m) | | <1 | | 2 |
| | Nickel | ppm | ASTM D5185(m) | >4 | <1 | <1 | <1 |
| | Titanium | ppm | ASTM D5185(m) | | 0 | 0 | <1 |
| | Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | <1 |
| | Aluminum | ppm | ASTM D5185(m) | | 3 | 4 | 4 |
| | Lead | ppm | ASTM D5185(m) | >25 | 0 | 1 | <1 |
| | Copper | ppm | ASTM D5185(m) | | 1 | 2 | 1 |
| | Tin | ppm | ASTM D5185(m) | >4 | 0 | <1 | <1 |
| | Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| CONTAMINATION | Silicon | ppm | ASTM D5185(m) | >25 | 6 | 11 | 8 |
| There is no indication of any contamination in the oil. | Potassium | ppm | ASTM D5185(m) | >20 | <1 | 1 | 2 |
| | 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 |
| | Soot % | % | ASTM D7844* | >6 | 0.4 | 0.7 | 1.1 |
| | Nitration | Abs/cm | ASTM D7624* | >20 | 8.8 | 10.0 | 10.0 |
| | Sulfation | Abs/.1mm | ASTM D7415* | >30 | 21.2 | 22.8 | 22.8 |
| | Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |
| FLUID CONDITION | Sodium | ppm | ASTM D5185(m) | | 8 | 7 | 7 |
| The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. | Boron | ppm | ASTM D5185(m) | 0 | 7 | 4 | 2 |
| | Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| | Molybdenum | ppm | ASTM D5185(m) | 60 | 57 | 58 | 59 |
| | Manganese | ppm | ASTM D5185(m) | 0 | <1 | 0 | <1 |
| | Magnesium | ppm | ASTM D5185(m) | 1010 | 923 | 898 | 951 |
| | Calcium | ppm | ASTM D5185(m) | 1070 | 1139 | 1144 | 1045 |
| | Guidian | PPIII | | 1070 | 1.05 | 1177 | 1040 |

Phosphorus

Zinc

Sulfur

Oxidation

Visc @ 100°C

ppm

ppm

ppm

cSt

Abs/.1mm Base Number (BN) mg KOH/g ASTM D2896* 9.8

ASTM D5185(m) 1150

ASTM D5185(m) 2060

ASTM D7414* >25

ASTM D7279(m) 15.6

ASTM D5185(m)

1270

957

1161

2252

18.2

9.15

13.9

941

1173

2444

20.8

7.17

13.9

1014

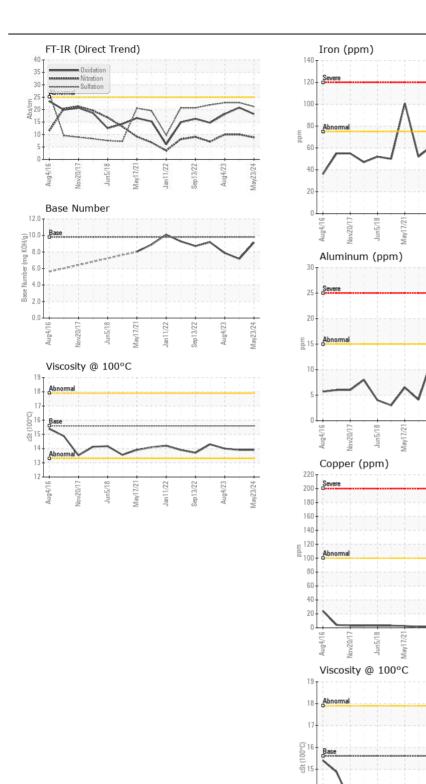
1172

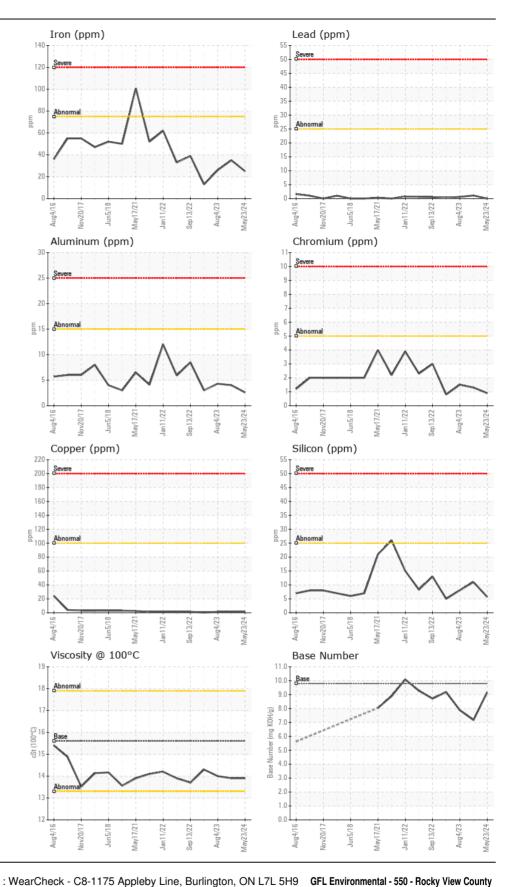
2387

18.2

7.88

14.0







CALA Sample No. : GFL0117289 Received : 28 May 2024 Lab Number : 29 May 2024 : 02637860 Tested ISO 17025:2017 Accredited : 29 May 2024 - Wes Davis Unique Number : 5787022 Diagnosed Laboratory Test Package : MOB 2 To discuss this sample report, contact Customer Service at 1-800-268-2131.

May17/21

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

Nov20/17

Aug4/16

220 Carmek Blvd Rocky View County, AB CA T1X 1X1 Contact: GFL Calgary calgarymaintenance@gflenv.com T: F: (403)369-6163

Laboratory

Submitted By: GFL Calgary Page 2 of 2