



| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |



Machine Id
9143

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (38 LTR)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0099542 | GFL0091574 | GFL0084285 |
| Sample Date | | Client Info | | 28 Dec 2023 | 16 Oct 2023 | 13 Jul 2023 |
| Machine Age | kms | Client Info | | 645933 | 630186 | 18778 |
| Oil Age | kms | Client Info | | 0 | 0 | 396 |
| Filter Age | kms | Client Info | | 0 | 0 | 396 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|----------|-----|---------------|------|--------------|----|----|
| Iron | ppm | ASTM D5185(m) | >120 | 10 | 17 | 11 |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >5 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 2 | 2 | 2 |
| Lead | ppm | ASTM D5185(m) | >40 | <1 | 2 | 1 |
| Copper | ppm | ASTM D5185(m) | >330 | 2 | 3 | 2 |
| Tin | ppm | ASTM D5185(m) | >15 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

CONTAMINATION

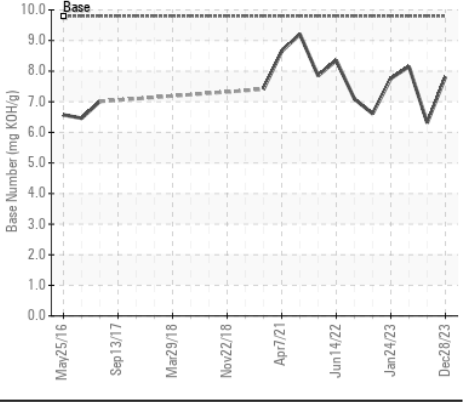
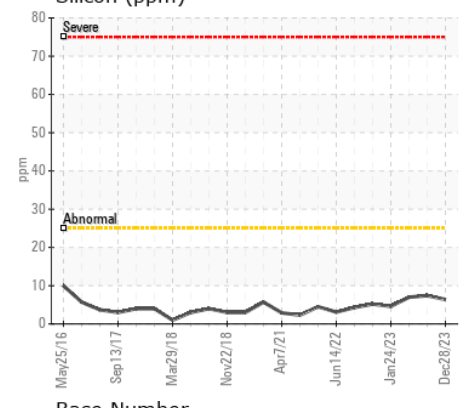
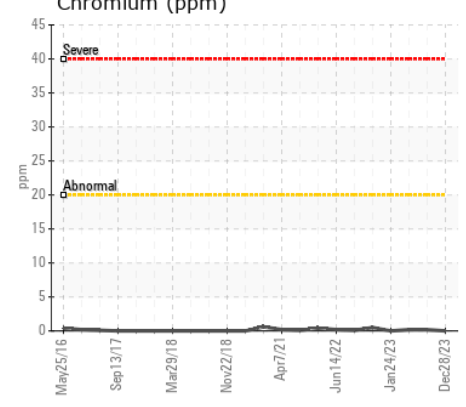
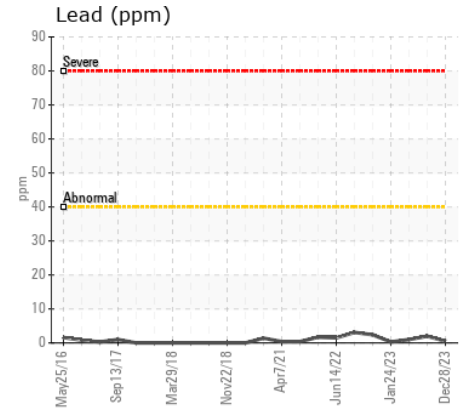
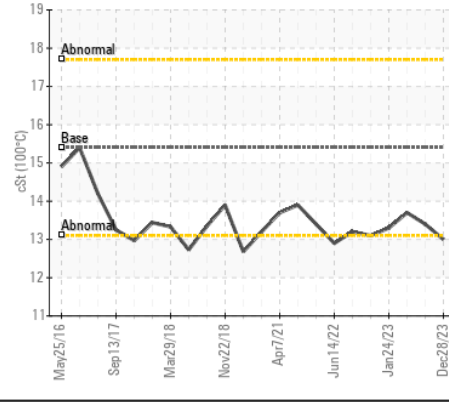
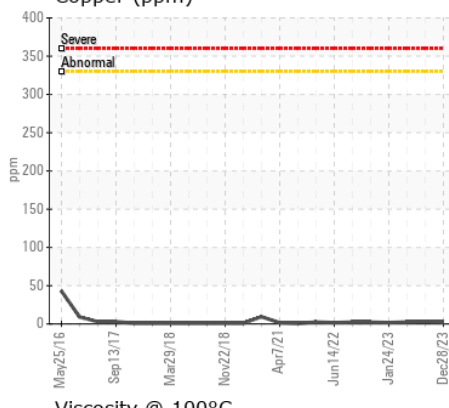
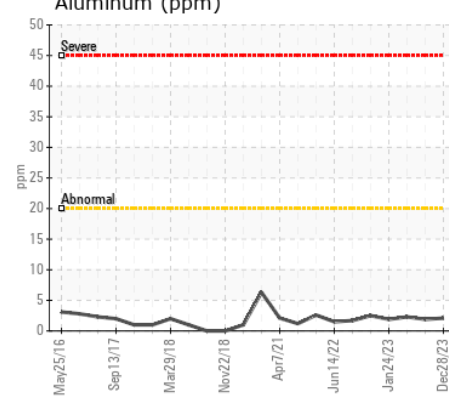
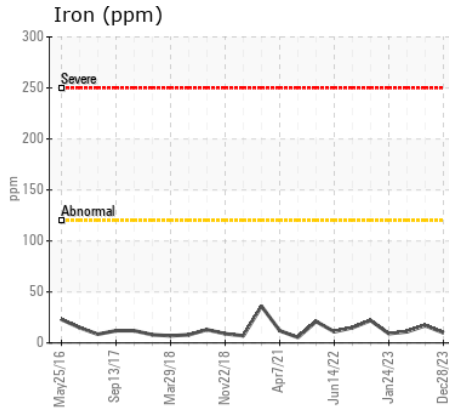
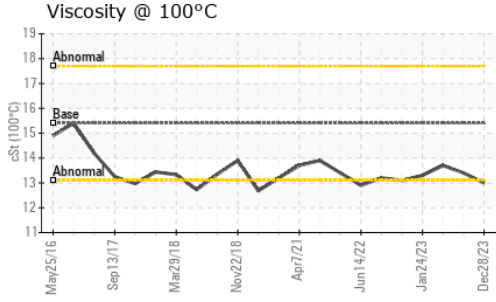
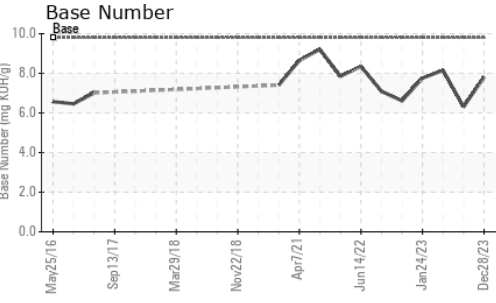
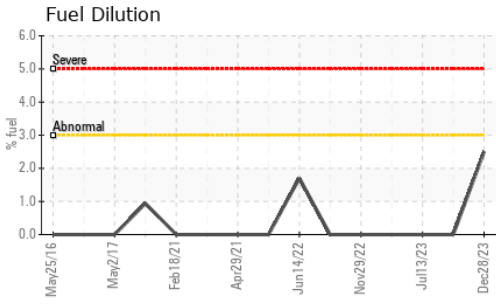
Light fuel dilution occurring. No other contaminants were detected in the oil.

| | | | | | | |
|------------------|----------|---------------|------|--------------|------|------|
| Silicon | ppm | ASTM D5185(m) | >25 | 6 | 7 | 7 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 0 | <1 |
| Fuel | % | ASTM D7593* | >3.0 | 2.5 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | ASTM D7844* | >4 | 0.2 | 0.6 | 0.3 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 8.2 | 9.3 | 8.0 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 20.7 | 23.6 | 21.2 |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |

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.

| | | | | | | |
|------------------|----------|---------------|------|-------------|------|------|
| Sodium | ppm | ASTM D5185(m) | | 5 | 8 | 14 |
| Boron | ppm | ASTM D5185(m) | 0 | 2 | 3 | 2 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 60 | 56 | 59 | 58 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 1010 | 906 | 946 | 969 |
| Calcium | ppm | ASTM D5185(m) | 1070 | 1071 | 1072 | 1039 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 939 | 924 | 1031 |
| Zinc | ppm | ASTM D5185(m) | 1270 | 1146 | 1180 | 1180 |
| Sulfur | ppm | ASTM D5185(m) | 2060 | 2289 | 2093 | 2344 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 17.1 | 21.6 | 17.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896* | 9.8 | 7.81 | 6.31 | 8.15 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | 13.0 | 13.4 | 13.7 |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County
Sample No. : GFL0099542 **Received** : 04 Jan 2024
Lab Number : 02606448 **Diagnosed** : 05 Jan 2024
Unique Number : 5707534 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)
 To discuss this sample report, contact Customer Service at 1-800-268-2131.
 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.

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