

WEAR NORMAL CONTAMINATION SEVERE FLUID CONDITION NORMAL

Machine Id Or1984 Component Hydraulic System Fluid PETRO CANADA DURATRAN (115 LTR)

RECOMMENDATION

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. The filter change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation.

WEAR

All component wear rates are normal.

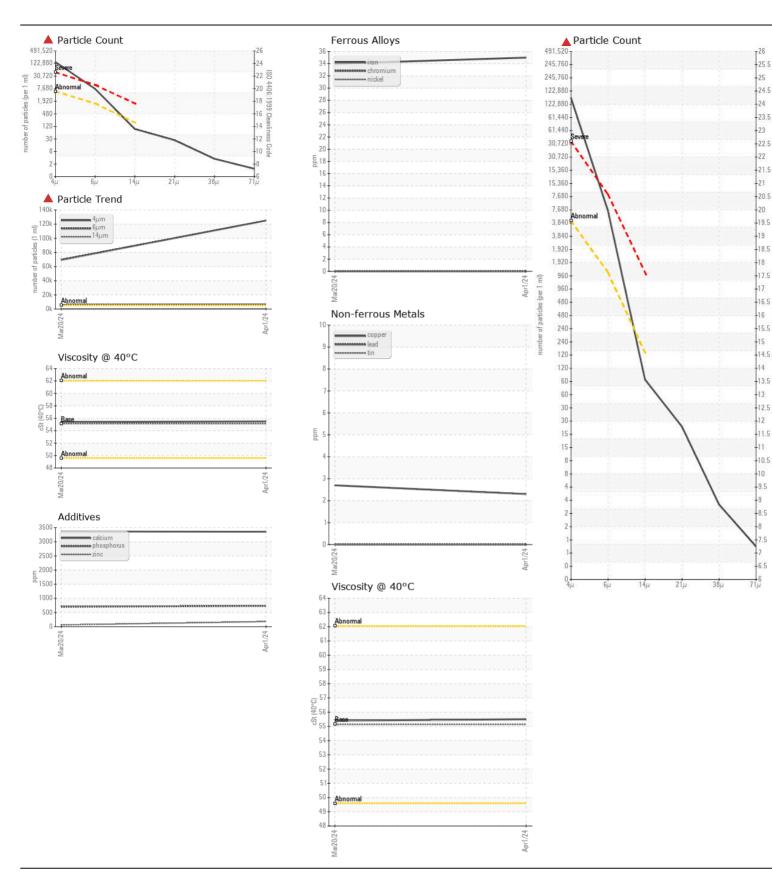
CONTAMINATION

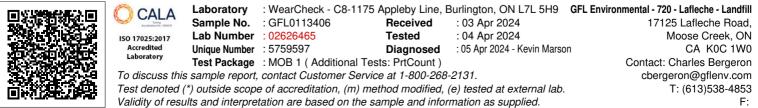
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|------------------|--------|------------------|-----------|-------------|-------------|----------|
| Sample Number | | Client Info | | GFL0113406 | GFL0113298 | |
| Sample Date | | Client Info | | 01 Apr 2024 | 20 Mar 2024 | |
| Machine Age | hrs | Client Info | | 11666 | 0 | |
| Oil Age | hrs | Client Info | | 11666 | 0 | |
| Filter Age | hrs | Client Info | | 500 | 0 | |
| Oil Changed | | Client Info | | Changed | N/A | |
| Filter Changed | | Client Info | | Changed | N/A | |
| Sample Status | | | | SEVERE | SEVERE | |
| | | | | | | |
| Iron | ppm | ASTM D5185(m) | >65 | 35 | 34 | |
| Chromium | ppm | ASTM D5185(m) | >6 | 0 | 0 | |
| Nickel | ppm | ASTM D5185(m) | >10 | 0 | <1 | |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | |
| Silver | ppm | ASTM D5185(m) | | 0 | 0 | |
| Aluminum | ppm | ASTM D5185(m) | >5 | <1 | 0 | |
| Lead | ppm | ASTM D5185(m) | >45 | 0 | 0 | |
| Copper | ppm | ASTM D5185(m) | >120 | 2 | 3 | |
| Tin | ppm | ASTM D5185(m) | >4 | 0 | 0 | |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | |
| White Metal | scalar | Visual* | NONE | NONE | NONE | |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | |
| Silicon | ppm | ASTM D5185(m) | >25 | 7 | 7 | |
| Potassium | ppm | ASTM D5185(m) | >20 | 2 | <1 | |
| Water | ppm | WC Method | >0.1 | 2 NEG | NEG | |
| Particles >4µm | | ASTM D7647 | >5000 | ▲ 125014 | ▲ 69385 | |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ 6514 | ▲ 5743 | |
| Particles >14µm | | ASTM D7647 | >160 | 79 | 13 | |
| Particles >21µm | | ASTM D7647 | >40 | 23 | 2 | |
| Particles >38µm | | ASTM D7647 | >10 | 3 | 1 | |
| Particles >71µm | | ASTM D7647 | >3 | 1 | 1 | |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | A 24/20/13 | ▲ 23/20/11 | |
| Silt | scalar | Visual* | NONE | NONE | NONE | |
| Debris | scalar | Visual* | NONE | NONE | NONE | |
| Sand/Dirt | scalar | Visual* | NONE | NONE | NONE | |
| Appearance | scalar | Visual* | NORML | NORML | NORML | |
| Odor | scalar | Visual* | NORML | NORML | NORML | |
| Emulsified Water | scalar | Visual* | >0.1 | NEG | NEG | |
| | | | | | | |
| Sodium | ppm | ASTM D5185(m) | | 2 | 2 | |
| Boron | ppm | ASTM D5185(m) | 110 | 98 | 0105 | |
| Barium | ppm | ASTM D5185(m) | 0.0 | 0 | 0 | |
| Molybdenum | ppm | ASTM D5185(m) | 0.0 | 0 | 0 | |
| Manganese | ppm | ASTM D5185(m) | 1 | 0 | 0 | |
| Magnesium | ppm | ASTM D5185(m) | 13 | 15 | 12 | |
| Calcium | ppm | ASTM D5185(m) | 3610 | 3354 | 3364 | |
| Phosphorus | ppm | ASTM D5185(m) | 1192 | 732 | 705 | |
| | ppm | ASTM D5185(m) | 1455 | 180 | 61 | |
| Zinc | ppiii | //011/100100(11) | 1400 | 100 | | |
| Zinc Sulfur | ppm | ASTM D5185(m) | 2641 | 2639 | 2692 | |





Submitted By: Charles Bergeron Page 2 of 2