



Area
(62A0X10) ALEXANDER CITY
Machine Id
711006
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0079737 | GFL0089930 | GFL0080713 |
| Sample Date | | Client Info | | 10 Apr 2024 | 28 Mar 2024 | 15 Feb 2024 |
| Machine Age | hrs | Client Info | | 6197 | 6197 | 5937 |
| Oil Age | hrs | Client Info | | 6197 | 1755 | 1495 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | ABNORMAL | NORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >90 | 36 | 10 | 44 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | 1 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 6 | 3 | 8 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 1 |
| Copper | ppm | ASTM D5185m | >330 | 2 | 7 | 2 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | 1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

Light fuel dilution occurring.

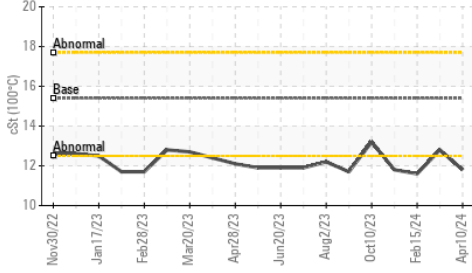
| | | | | | | |
|------------------|----------|-------------|-------|--------------|-------|--------------|
| Silicon | ppm | ASTM D5185m | >25 | 7 | 6 | 9 |
| Potassium | ppm | ASTM D5185m | >20 | 32 | 2 | 13 |
| Fuel | % | ASTM D3524 | >3.0 | ▲ 2.6 | 0.5 | ▲ 3.9 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >6 | 0.6 | 0.5 | 0.6 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.4 | 10.1 | 9.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 18.8 | 20.1 | 18.2 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

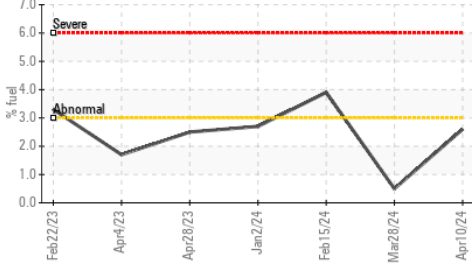
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|---------------|------|---------------|
| Sodium | ppm | ASTM D5185m | | 38 | 3 | 37 |
| Boron | ppm | ASTM D5185m | 0 | 9 | 2 | 13 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 60 | 63 | 69 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 827 | 944 | 997 |
| Calcium | ppm | ASTM D5185m | 1070 | 1056 | 1158 | 1138 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 945 | 965 | 1096 |
| Zinc | ppm | ASTM D5185m | 1270 | 1102 | 1239 | 1371 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3274 | 3613 | 3387 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.4 | 16.5 | 14.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 7.0 | 5.0 | 7.5 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | ▲ 11.8 | 12.8 | ▲ 11.6 |

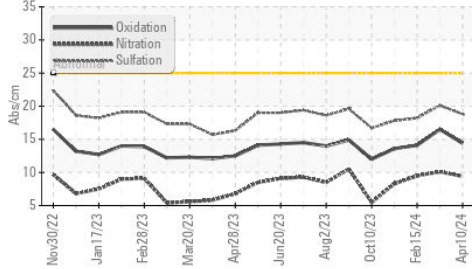
▲ Viscosity @ 100°C



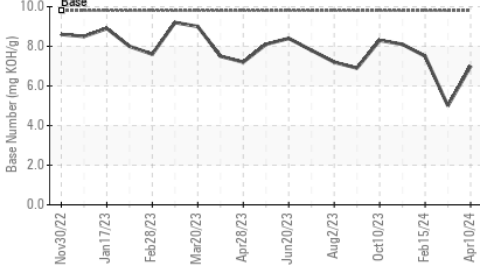
▲ Fuel Dilution



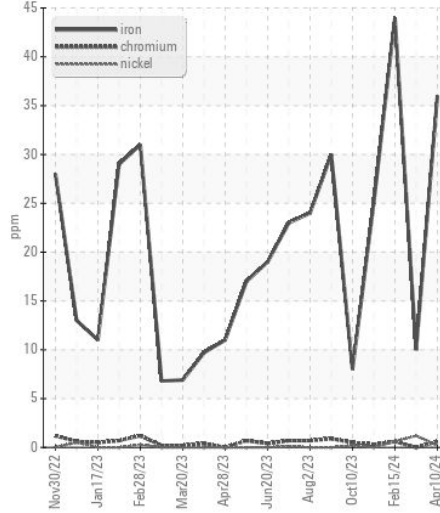
FT-IR (Direct Trend)



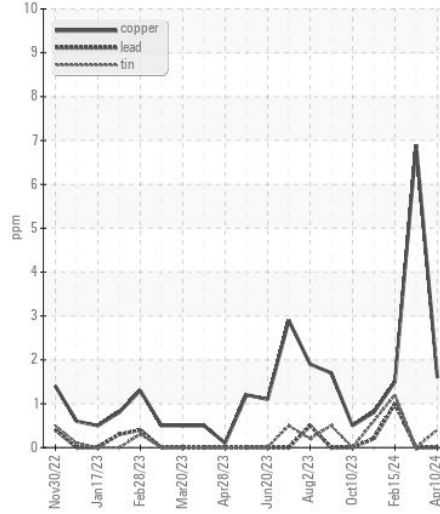
Base Number



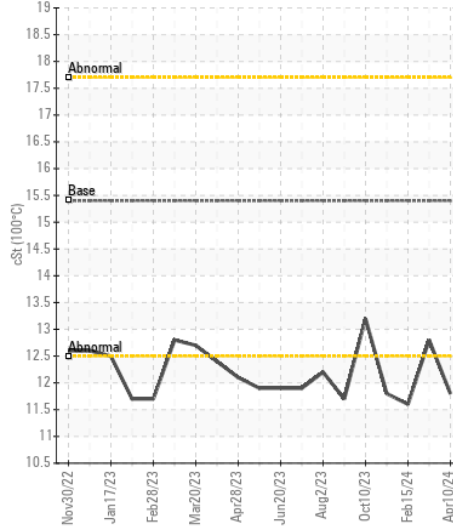
Ferrous Alloys



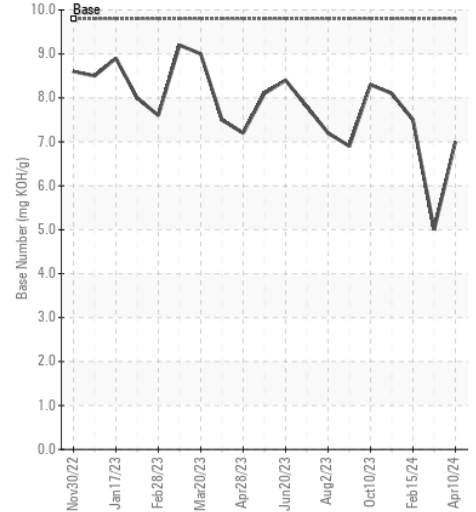
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0079737

Lab Number : 06150903

Unique Number : 10980981

Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 16 Apr 2024

Tested : 22 Apr 2024

Diagnosed : 22 Apr 2024 - Wes Davis

GFL Environmental - 172 - Montgomery-Alexander City-Tallahassee

Multiple Sites

Montgomery, AL

US 36108

Contact: Lisa Reeves

lisa.reeves@gflenv.com

T: (334)946-9566

F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)