

PROBLEM SUMMARY

Sample Rating Trend

DEGRADATION

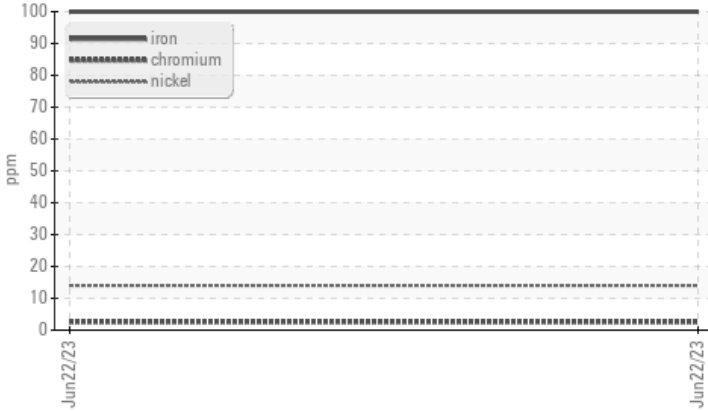


Machine Id
BTR1
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)



COMPONENT CONDITION SUMMARY

▲ Ferrous Alloys



RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | --- | --- |
|------------------|----------|-------------|-----|----------|-----|-----|
| Nickel | ppm | ASTM D5185m | >5 | ▲ 14 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | ▲ 2.3 | --- | --- |

Customer Id: ORIBET
Sample No.: PCA0098099
Lab Number: 05889576
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
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To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|--------------|--------|------|---------|---|
| Change Fluid | --- | --- | ? | We recommend that you drain the oil from the component if this has not already been done. |

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id
BTR1
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)

DIAGNOSIS

Recommendation

We recommend that you drain the oil from the component if this has not already been done. Resample at the next service interval to monitor.

Wear

The nickel level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN level is low. The oil is no longer serviceable.

SAMPLE INFORMATION

| | method | limit/base | current | history 1 | history 2 |
|---------------|-------------|-------------|--------------------|-----------|-----------|
| Sample Number | Client Info | | PCA0098099 | --- | --- |
| Sample Date | Client Info | | 22 Jun 2023 | --- | --- |
| Machine Age | hrs | Client Info | 4151 | --- | --- |
| Oil Age | hrs | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | Not Chngd | --- | --- |
| Sample Status | | | ABNORMAL | --- | --- |

CONTAMINATION

| | method | limit/base | current | history 1 | history 2 |
|--------|-----------|------------|----------------|-----------|-----------|
| Fuel | WC Method | >3.0 | <1.0 | --- | --- |
| Glycol | WC Method | | NEG | --- | --- |

WEAR METALS

| | method | limit/base | current | history 1 | history 2 |
|----------|--------|------------------|-------------|-----------|-----------|
| Iron | ppm | ASTM D5185m >120 | 100 | --- | --- |
| Chromium | ppm | ASTM D5185m >20 | 3 | --- | --- |
| Nickel | ppm | ASTM D5185m >5 | ▲ 14 | --- | --- |
| Titanium | ppm | ASTM D5185m >2 | 0 | --- | --- |
| Silver | ppm | ASTM D5185m >2 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m >20 | 5 | --- | --- |
| Lead | ppm | ASTM D5185m >40 | 0 | --- | --- |
| Copper | ppm | ASTM D5185m >330 | 28 | --- | --- |
| Tin | ppm | ASTM D5185m >15 | 1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | 0 | --- | --- |
| Cadmium | ppm | ASTM D5185m | 0 | --- | --- |

ADDITIVES

| | method | limit/base | current | history 1 | history 2 |
|------------|--------|------------------|-------------|-----------|-----------|
| Boron | ppm | ASTM D5185m 0 | 14 | --- | --- |
| Barium | ppm | ASTM D5185m 0 | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m 60 | 114 | --- | --- |
| Manganese | ppm | ASTM D5185m 0 | 2 | --- | --- |
| Magnesium | ppm | ASTM D5185m 1010 | 598 | --- | --- |
| Calcium | ppm | ASTM D5185m 1070 | 1329 | --- | --- |
| Phosphorus | ppm | ASTM D5185m 1150 | 799 | --- | --- |
| Zinc | ppm | ASTM D5185m 1270 | 1033 | --- | --- |
| Sulfur | ppm | ASTM D5185m 2060 | 2573 | --- | --- |

CONTAMINANTS

| | method | limit/base | current | history 1 | history 2 |
|-----------|--------|-----------------|-----------|-----------|-----------|
| Silicon | ppm | ASTM D5185m >25 | 12 | --- | --- |
| Sodium | ppm | ASTM D5185m | 8 | --- | --- |
| Potassium | ppm | ASTM D5185m >20 | 11 | --- | --- |

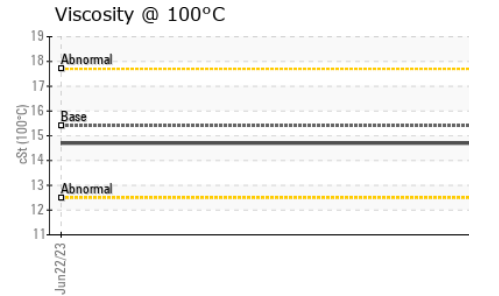
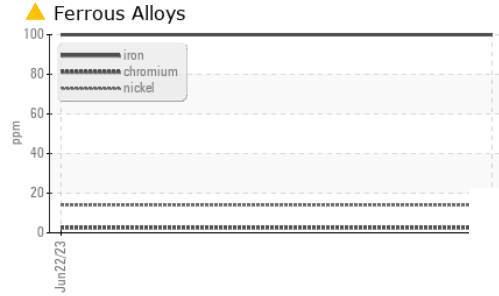
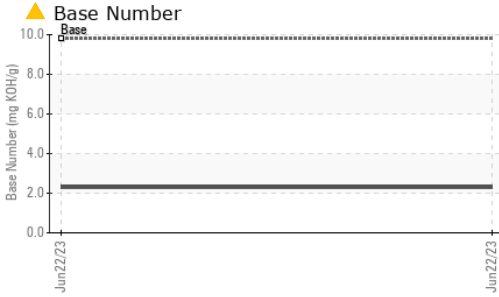
INFRA-RED

| | method | limit/base | current | history 1 | history 2 |
|-----------|----------|-----------------|-------------|-----------|-----------|
| Soot % | % | *ASTM D7844 >4 | 1.6 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 >20 | 16.4 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 31.9 | --- | --- |

FLUID DEGRADATION

| | method | limit/base | current | history 1 | history 2 |
|------------------|----------|-----------------|--------------|-----------|-----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 36.6 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8 | ▲ 2.3 | --- | --- |

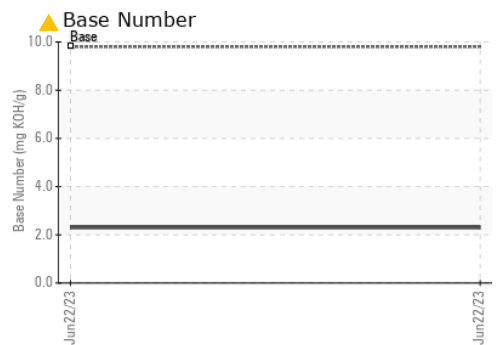
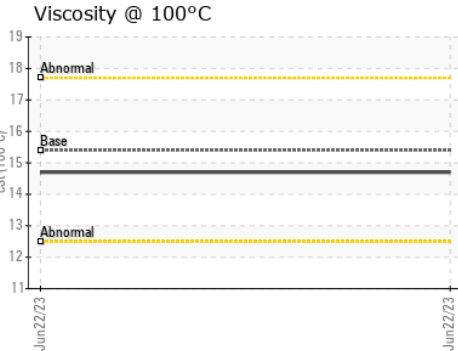
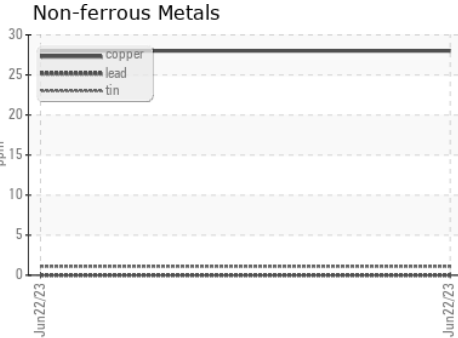
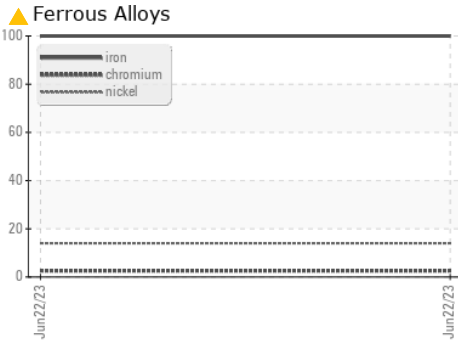
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history 1 | history 2 | |
|------------------|--------|------------|---------|-----------|-----------|-----|
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- | --- |
| Silt | scalar | *Visual | NONE | NONE | --- | --- |
| Debris | scalar | *Visual | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- | --- |
| Odor | scalar | *Visual | NORML | NORML | --- | --- |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | --- | --- |
| Free Water | scalar | *Visual | | NEG | --- | --- |

| FLUID PROPERTIES | method | limit/base | current | history 1 | history 2 | |
|------------------|--------|------------|---------|-----------|-----------|-----|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 14.7 | --- | --- |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0098099 **Received** : 03 Jul 2023
Lab Number : 05889576 **Diagnosed** : 06 Jul 2023
Unique Number : 10540059 **Diagnostician** : Angela Borella
Test Package : FLEET

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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)