

OIL ANALYSIS REPORT

Sample Rating Trend

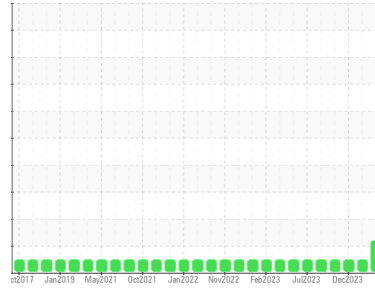
GLYCOL



Machine Id
04537

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 10W30 (9 QTS)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

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.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | PCA0116244 | PCA0116212 | PCA0112290 |
| Sample Date | Client Info | | 26 Feb 2024 | 25 Jan 2024 | 22 Dec 2023 |
| Machine Age | hrs | Client Info | 12046 | 11950 | 11276 |
| Oil Age | hrs | Client Info | 11950 | 200 | 11276 |
| Oil Changed | Client Info | | N/A | Changed | N/A |
| Sample Status | | | ABNORMAL | NORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | WC Method | >0.2 | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >100 | 12 | 8 | 4 |
| Chromium | ppm | ASTM D5185m >20 | 2 | <1 | <1 |
| Nickel | ppm | ASTM D5185m >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | 3 | 1 | 3 |
| Lead | ppm | ASTM D5185m >40 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m >330 | 1 | <1 | 0 |
| Tin | ppm | ASTM D5185m >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | <1 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | <1 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m 2 | 6 | 8 | 11 |
| Barium | ppm | ASTM D5185m 0 | 2 | 8 | 0 |
| Molybdenum | ppm | ASTM D5185m 50 | 59 | 62 | 58 |
| Manganese | ppm | ASTM D5185m 0 | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m 950 | 828 | 858 | 899 |
| Calcium | ppm | ASTM D5185m 1050 | 976 | 978 | 1036 |
| Phosphorus | ppm | ASTM D5185m 995 | 964 | 865 | 995 |
| Zinc | ppm | ASTM D5185m 1180 | 1133 | 1121 | 1232 |
| Sulfur | ppm | ASTM D5185m 2600 | 3365 | 2948 | 3107 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|------------|----------|----------|
| Silicon | ppm | ASTM D5185m >25 | 5 | 3 | 3 |
| Sodium | ppm | ASTM D5185m | 51 | 19 | 0 |
| Potassium | ppm | ASTM D5185m >20 | 56 | 25 | 0 |
| Glycol | % | *ASTM D2982 | NEG | NEG | NEG |

INFRA-RED

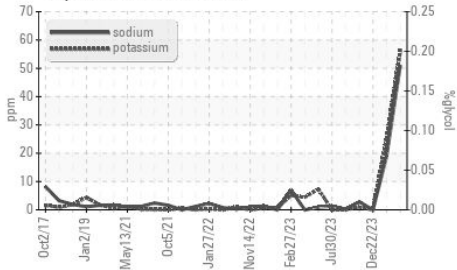
| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 >3 | 0.5 | 0.3 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 >20 | 5.8 | 5.4 | 5.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 17.7 | 17.2 | 16.8 |

FLUID DEGRADATION

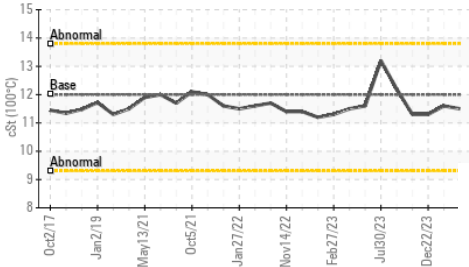
| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 12.8 | 12.7 | 12.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.5 | 9.4 | 8.8 |

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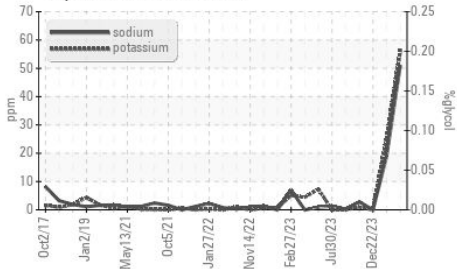
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

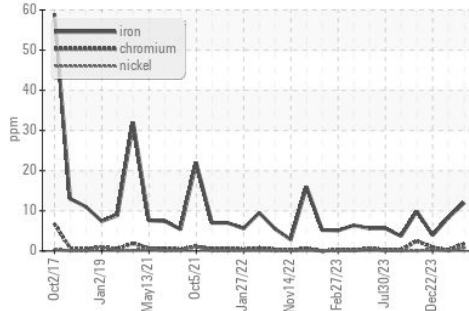


| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| 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 | >0.2 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

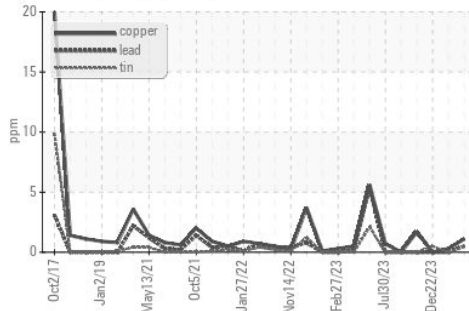
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | 11.5 | 11.6 |

GRAPHS

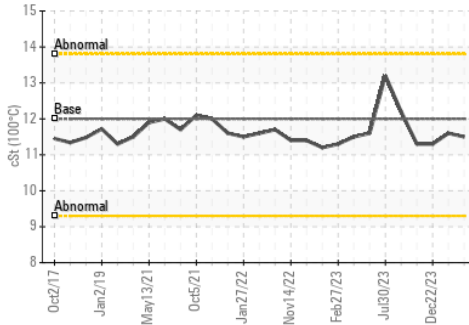
Ferrous Alloys



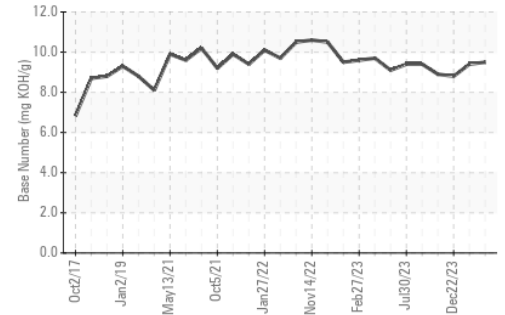
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0116244 **Received** : 27 Feb 2024
Lab Number : 06101375 **Tested** : 29 Feb 2024
Unique Number : 10899605 **Diagnosed** : 29 Feb 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

PERDUE FARMS - DILLON
 2047 HWY 9 WEST
 DILLON, SC
 US 29536
 Contact: KEVIN HOOKS
 kevin.hooks@perdue.com
 T: (843)841-8069
 F: (843)841-8070

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)