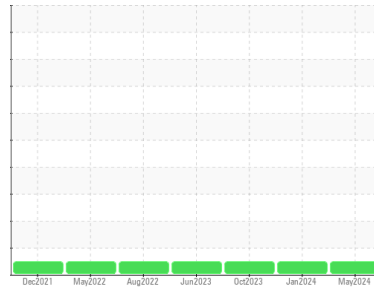


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
KEMP QUARRIES / KEMP STONE - FAIRLAND [69383]
 Machine Id
OHT123
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: PM-2 changed fluid and filters)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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 | | | PCA0109096 | PCA0070631 | PCA0084732 |
| Sample Date | Client Info | | | 22 May 2024 | 02 Jan 2024 | 02 Oct 2023 |
| Machine Age | hrs | Client Info | | 38485 | 37987 | 37517 |
| Oil Age | hrs | Client Info | | 38485 | 37987 | 37517 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | 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 |
| Glycol | WC Method | | | NEG | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m | >100 | 53 | 41 | 28 |
| Chromium | ppm | ASTM D5185m | >20 | 1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 2 | 2 |
| Lead | ppm | ASTM D5185m | >40 | 4 | 2 | 3 |
| Copper | ppm | ASTM D5185m | >330 | 6 | 5 | 5 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | <1 |

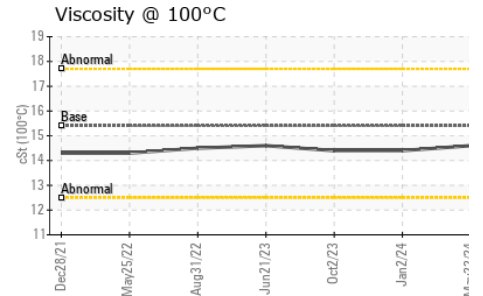
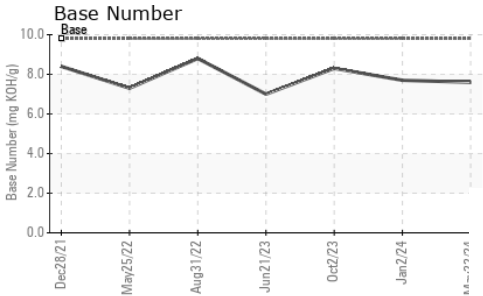
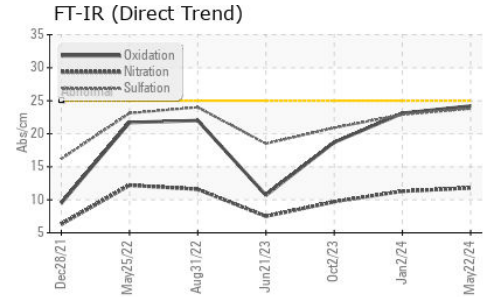
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 4 |
| Molybdenum | ppm | ASTM D5185m | 60 | 72 | 67 | 59 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 1194 | 1052 | 882 |
| Calcium | ppm | ASTM D5185m | 1070 | 1343 | 1138 | 1031 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1233 | 1097 | 971 |
| Zinc | ppm | ASTM D5185m | 1270 | 1594 | 1341 | 1153 |
| Sulfur | ppm | ASTM D5185m | 2060 | 4048 | 3431 | 2722 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >25 | 7 | 4 | 3 |
| Sodium | ppm | ASTM D5185m | | 5 | 2 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 1 | 1 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 | >3 | 0.6 | 0.6 | 0.5 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.8 | 11.3 | 9.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.8 | 22.9 | 20.9 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 24.2 | 23.1 | 18.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 7.6 | 7.7 | 8.3 |

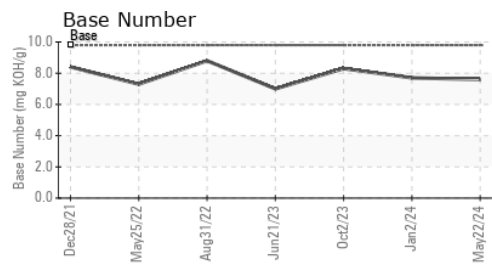
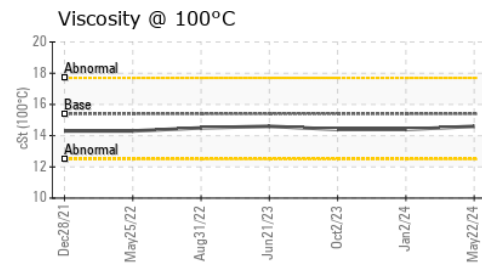
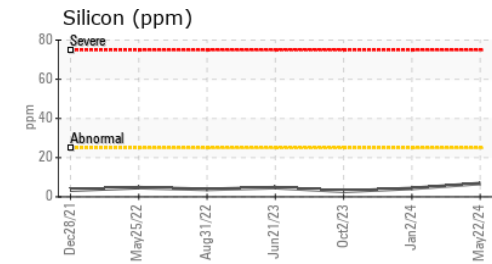
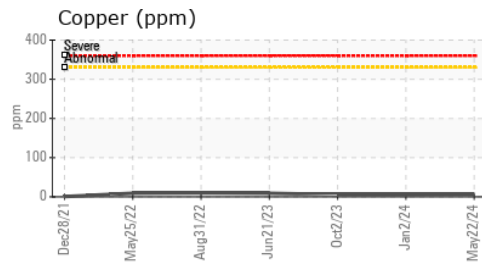
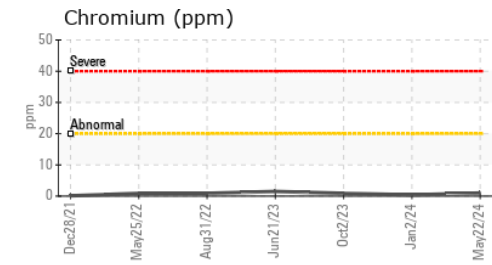
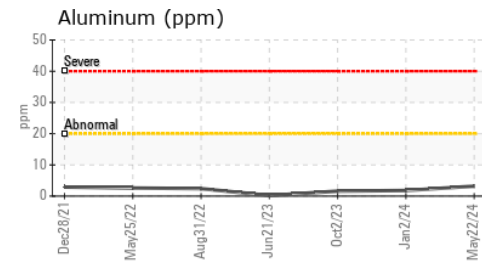
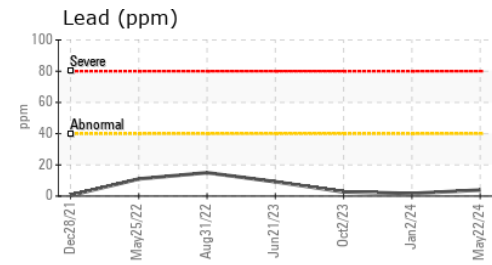
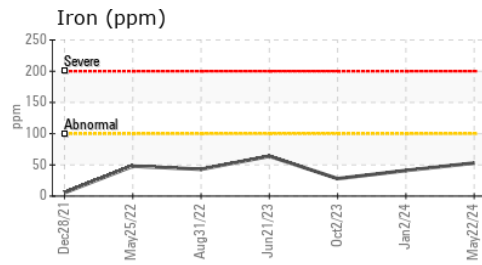
OIL ANALYSIS REPORT



| PARAMETER | 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 | 15.4 | 14.6 | 14.4 | 14.4 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0109096 **Received** : 28 May 2024
Lab Number : **06193219** **Tested** : 30 May 2024
Unique Number : 11049971 **Diagnosed** : 30 May 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

Kemp Quarries - Kemp Stone - Fairland
 18350 S 590 Rd
 Fairland, OK
 US 74343
 Contact:

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)

fairland@kempstone.com
 T:
 F: