



OIL ANALYSIS REPORT

| | |
|-----------------|--------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Area
KEMP QUARRIES / PRYOR STONE [71159]

Machine Id
WP049

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: PM performed. Engine oil sample taken. Engine oil, and all filters changed.)

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | PCA0108866 | PCA0086666 | PCA0086646 |
| Sample Date | | Client Info | | 21 May 2024 | 04 May 2024 | 04 Apr 2024 |
| Machine Age | hrs | Client Info | | 13795 | 13464 | 13103 |
| Oil Age | hrs | Client Info | | 331 | 361 | 366 |
| Filter Age | hrs | Client Info | | 331 | 361 | 366 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >51 | 11 | 10 | 7 |
| Chromium | ppm | ASTM D5185m | >11 | 1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >31 | 2 | <1 | <1 |
| Lead | ppm | ASTM D5185m | >26 | 1 | 2 | <1 |
| Copper | ppm | ASTM D5185m | >26 | 2 | <1 | 0 |
| Tin | ppm | ASTM D5185m | >4 | <1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

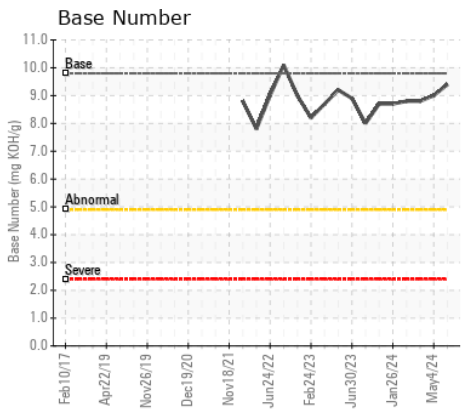
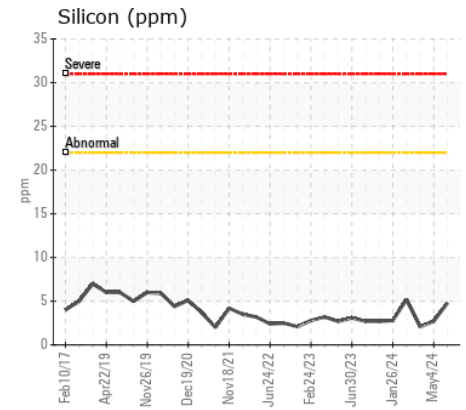
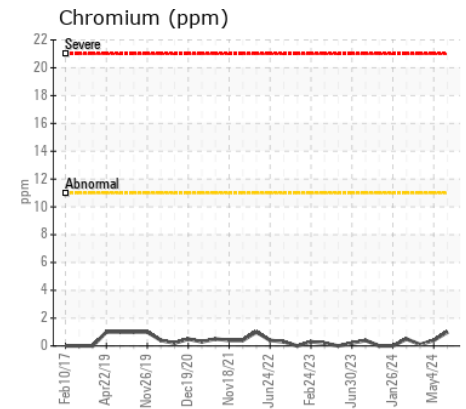
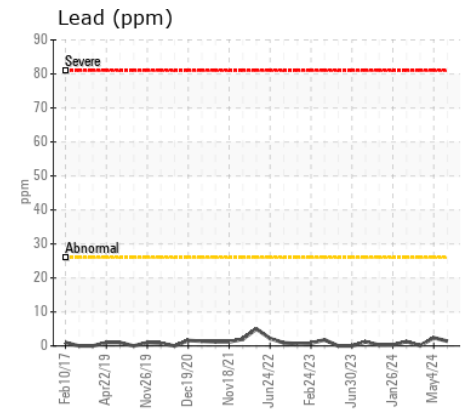
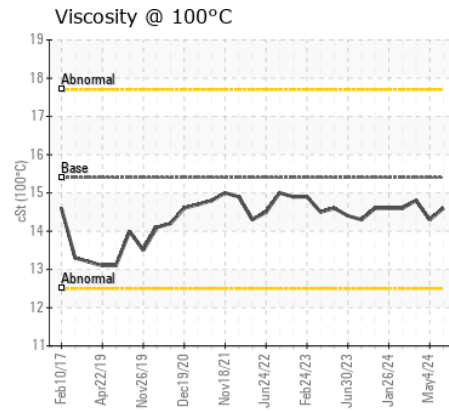
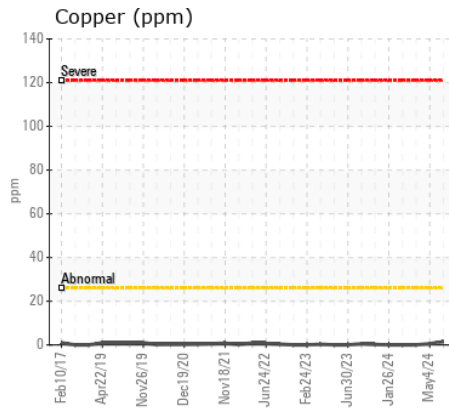
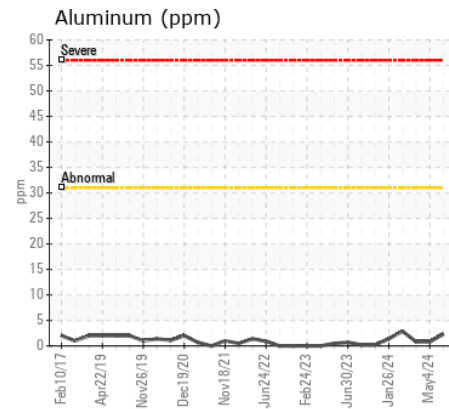
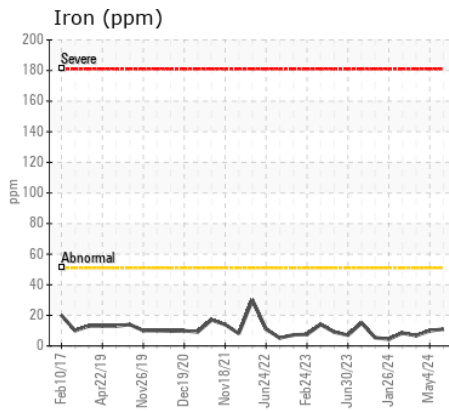
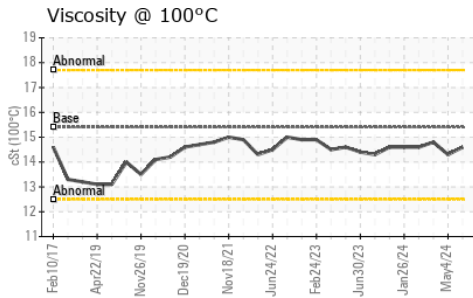
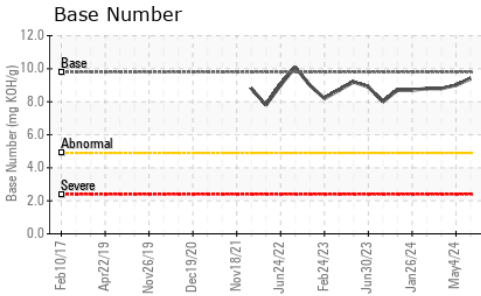
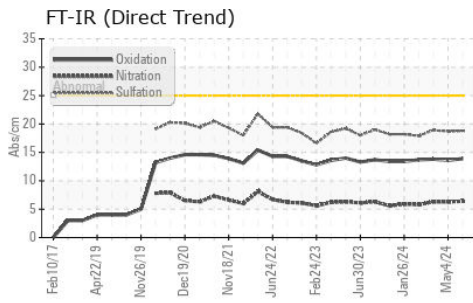
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >22 | 5 | 3 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 1 | <1 |
| Fuel | | WC Method | >2.1 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.21 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.6 | 0.7 | 0.9 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.4 | 6.3 | 6.3 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 18.8 | 18.7 | 18.9 |
| 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 | >0.21 | NEG | NEG | NEG |

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.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | >31 | 10 | 1 | <1 |
| Boron | ppm | ASTM D5185m | 0 | 3 | 0 | 2 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 63 | 64 | 62 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 1054 | 1083 | 1050 |
| Calcium | ppm | ASTM D5185m | 1070 | 1156 | 1165 | 1136 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1107 | 1128 | 1139 |
| Zinc | ppm | ASTM D5185m | 1270 | 1367 | 1363 | 1350 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3363 | 3874 | 3840 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 13.9 | 13.6 | 13.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 9.4 | 9.0 | 8.8 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 14.6 | 14.3 | 14.8 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0108866 **Received** : 08 Jul 2024
Lab Number : 06229711 **Tested** : 09 Jul 2024
Unique Number : 11113204 **Diagnosed** : 09 Jul 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

Kemp Quarries - Pryor Stone - Pryor
 1050 E 520 Rd
 Pryor, OK
 US 74361
 Contact:
 pryor@pryorstone.com

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)