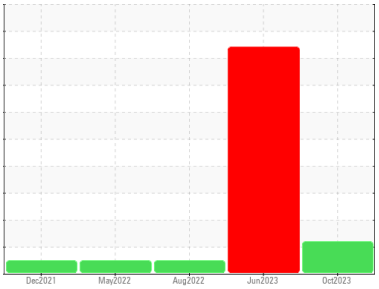
# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Area
## KEMP QUARRIES / KEMP STONE - FAIRLAND [33993]
Machine Id
## OHT123
Component
**Hydraulic System**
Fluid
**PETRO CANADA HYDREX AW 68 (--- GAL)**

## DIAGNOSIS

**Recommendation**

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. ( Customer Sample Comment: PM-4 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 oil viscosity is higher than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0084734** | PCA0086313 | PCA0062459 |
| Sample Date | | Client Info | | **02 Oct 2023** | 21 Jun 2023 | 31 Aug 2022 |
| Machine Age | hrs | Client Info | | **37517** | 37279 | 36774 |
| Oil Age | hrs | Client Info | | **37517** | 37279 | 36774 |
| Oil Changed | | Client Info | | **Changed** | N/A | N/A |
| Sample Status | | | | **ATTENTION** | SEVERE | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **12** | 11 | 12 |
| Chromium | ppm | ASTM D5185m | >10 | **3** | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | **<1** | 0 | 2 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >10 | **2** | <1 | 1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 2 | <1 |
| Copper | ppm | ASTM D5185m | >75 | **8** | 357 | 12 |
| Tin | ppm | ASTM D5185m | >10 | **0** | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **<1** | 2 | 2 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 14 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **2** | 2 | <1 |
| Manganese | ppm | ASTM D5185m | 0 | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **14** | 28 | 6 |
| Calcium | ppm | ASTM D5185m | 50 | **1736** | 2806 | 164 |
| Phosphorus | ppm | ASTM D5185m | 330 | **557** | 1004 | 347 |
| Zinc | ppm | ASTM D5185m | 430 | **825** | 1170 | 407 |
| Sulfur | ppm | ASTM D5185m | 760 | **2430** | 4594 | 927 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >20 | **12** | 9 | 2 |
| Sodium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **1** | 0 | 0 |

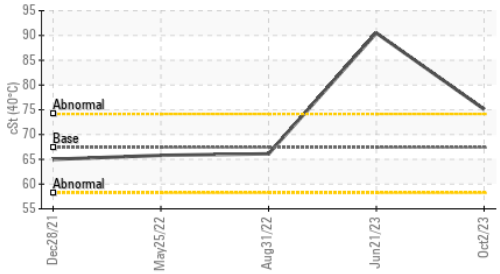
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 67.4 | **75.1** | 90.5 | 66.1 |

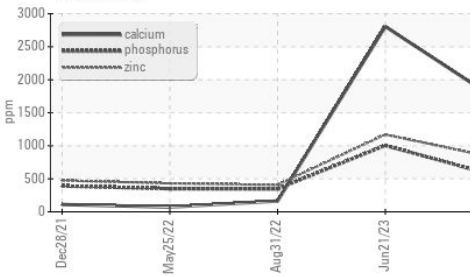
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Viscosity @ 40°C




Additives

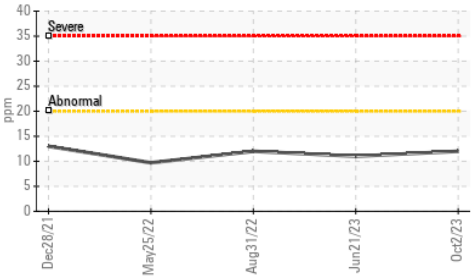



## SAMPLE IMAGES

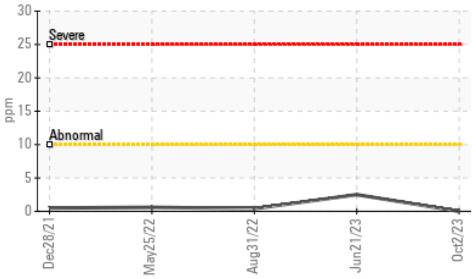
| | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | no image | no image | no image |
| Bottom | | | no image | no image | no image |

## GRAPHS

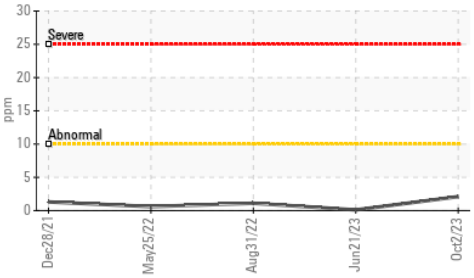
Iron (ppm)



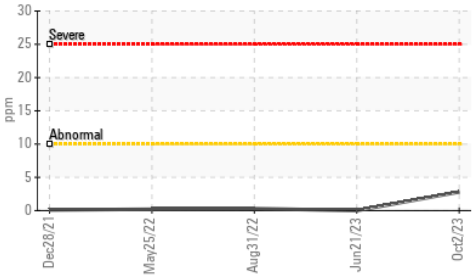

Lead (ppm)



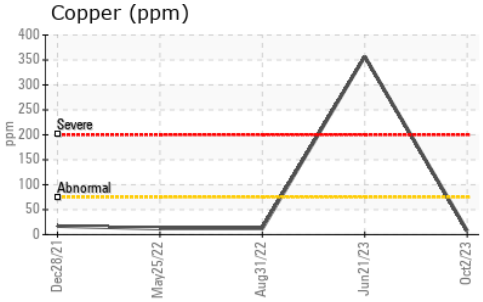

Aluminum (ppm)



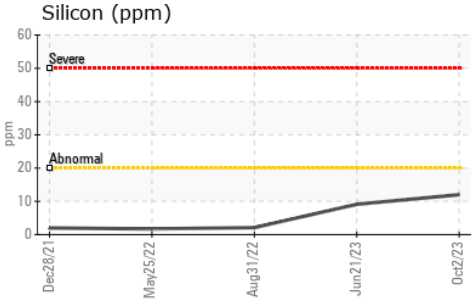

Chromium (ppm)



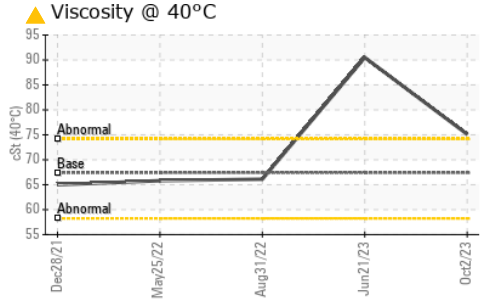

Copper (ppm)



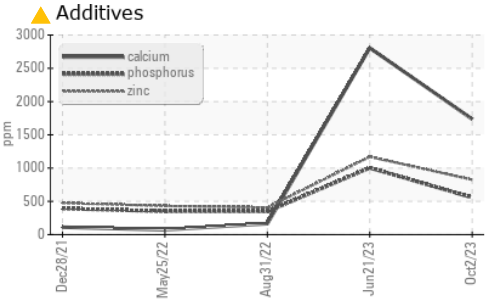

Silicon (ppm)




Viscosity @ 40°C




Additives




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0084734
**Lab Number** : 05980786
**Unique Number** : 10698081
**Test Package** : MOB 1

**Received** : 16 Oct 2023
**Diagnosed** : 18 Oct 2023
**Diagnostician** : Angela Borella

*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)*

**Kemp Quarries - Kemp Stone - Fairland**
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T:
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Report Id: KEMFAI [WUSCAR] 05980786 (Generated: 10/19/2023 18:11:20) Rev: 1

Submitted By: