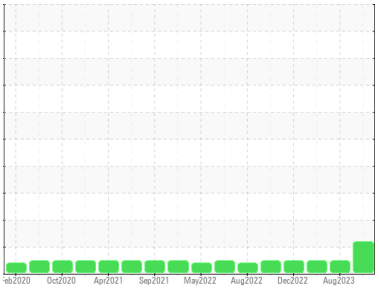
# OIL ANALYSIS REPORT

Area
**KEMP QUARRIES / RIVER VALLEY BACKBONE**
Machine Id
**WL135**
Component
**Hydraulic System**
Fluid
**PETRO CANADA HYDREX AW 68 (--- GAL)**

Sample Rating Trend




**VISCOSITY**

## DIAGNOSIS

**▲ Recommendation**
The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

**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 | | **PCA0084852** | PCA0084833 | PCA0037140 |
| Sample Date | | Client Info | | **25 Oct 2023** | 12 Aug 2023 | 13 Jan 2023 |
| Machine Age | hrs | Client Info | | **52934** | 52602 | 52005 |
| Oil Age | hrs | Client Info | | **900** | 300 | 900 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Not Changd |
| Sample Status | | | | **ATTENTION** | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **13** | 15 | 11 |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **3** | 3 | 2 |
| Lead | ppm | ASTM D5185m | >10 | **<1** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >75 | **3** | 4 | 2 |
| Tin | ppm | ASTM D5185m | >10 | **<1** | 0 | 0 |
| 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** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **<1** | <1 | 3 |
| Manganese | ppm | ASTM D5185m | 0 | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **14** | 20 | 23 |
| Calcium | ppm | ASTM D5185m | 50 | ▲ **1894** | 732 | 135 |
| Phosphorus | ppm | ASTM D5185m | 330 | **592** | 473 | 347 |
| Zinc | ppm | ASTM D5185m | 430 | **828** | 572 | 397 |
| Sulfur | ppm | ASTM D5185m | 760 | ▲ **2400** | 1688 | 764 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >20 | **11** | 9 | 6 |
| Sodium | ppm | ASTM D5185m | | **2** | 2 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |

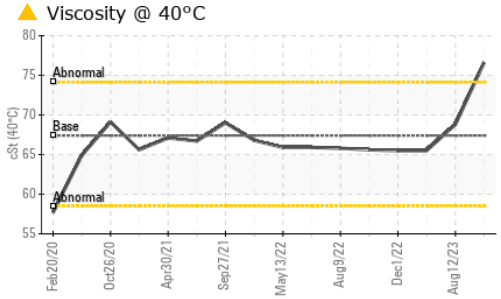
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | ▲ **76.6** | 68.8 | 65.5 |

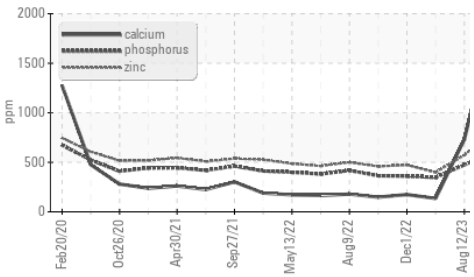
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Viscosity @ 40°C




Additives

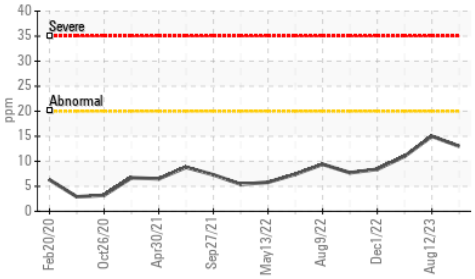



## SAMPLE IMAGES

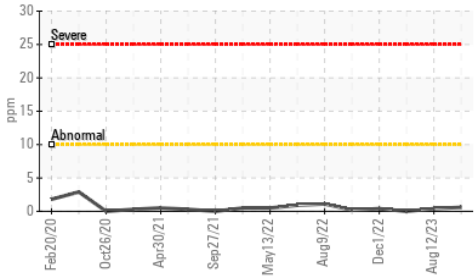
| | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | no image | no image | no image |
| Bottom | | | no image | no image | no image |

## GRAPHS

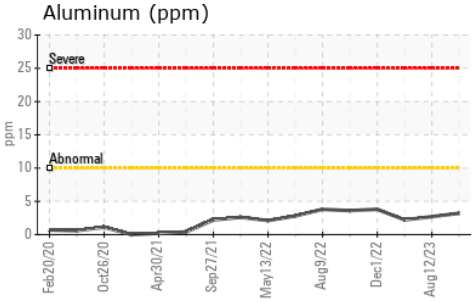
Iron (ppm)



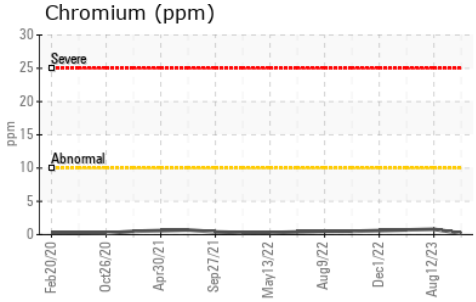

Lead (ppm)



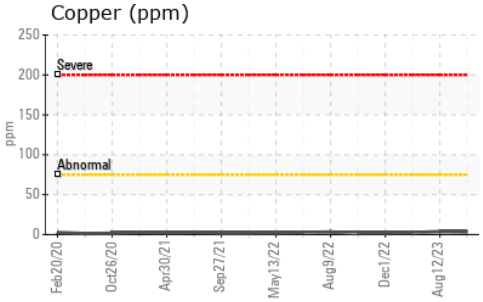

Aluminum (ppm)



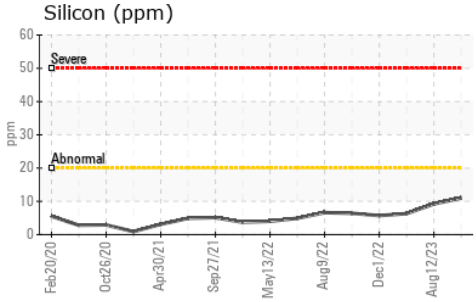

Chromium (ppm)



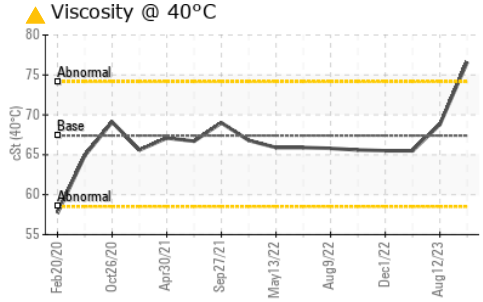

Copper (ppm)



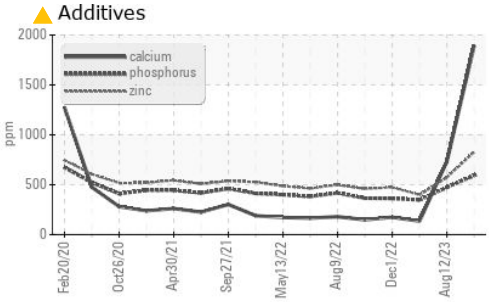

Silicon (ppm)




Viscosity @ 40°C




Additives




Certificate L2367

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck USA - 501 Madison Ave., Cary, NC 27513 | | |
| **Sample No.** | : PCA0084852 | **Received** | : 06 Nov 2023 |
| **Lab Number** | : 06000157 | **Diagnosed** | : 08 Nov 2023 |
| **Unique Number** | : 10728517 | **Diagnostician** | : Sean Felton |
| **Test Package** | : MOB 1 | | |

*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)*

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Report Id: KEMHUN [WUSCAR] 06000157 (Generated: 11/08/2023 15:00:57) Rev: 1

Submitted By: ? ?