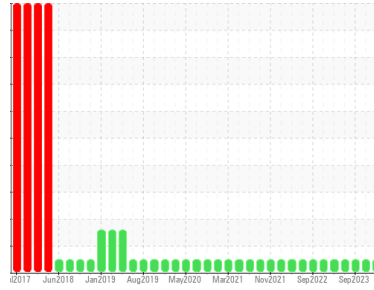


OIL ANALYSIS REPORT

Sample Rating Trend



Area
KEMP QUARRIES / MUSKOGEE SAND [68593]
 Machine Id
WL109
 Component
Rear Differential
 Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

DIAGNOSIS

Recommendation
 Resample at the next service interval to monitor. (Customer Sample Comment: PM-2 sampled fluid)

Wear
 All component wear rates are normal.

Contamination
 There is no indication of any contamination in the oil.

Fluid Condition
 The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-----------------|--------------------|-------------|-------------|
| Sample Number | Client Info | PCA0086515 | PCA0070578 | PCA0048600 |
| Sample Date | Client Info | 05 Feb 2024 | 22 Nov 2023 | 11 Sep 2023 |
| Machine Age | hrs Client Info | 50702 | 50215 | 49706 |
| Oil Age | hrs Client Info | 50702 | 50215 | 49706 |
| Oil Changed | Client Info | N/A | N/A | Changed |
| Sample Status | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|---------------|------------|----------|----------|
| Water | WC Method >.2 | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m >500 | 159 | 30 | 112 |
| Chromium | ppm ASTM D5185m >10 | 0 | 0 | <1 |
| Nickel | ppm ASTM D5185m >10 | <1 | 0 | <1 |
| Titanium | ppm ASTM D5185m | <1 | <1 | <1 |
| Silver | ppm ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm ASTM D5185m >25 | 3 | 1 | 3 |
| Lead | ppm ASTM D5185m >25 | 0 | 0 | 0 |
| Copper | ppm ASTM D5185m >100 | 2 | 2 | 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 2 | 1 | 0 | 2 |
| Barium | ppm ASTM D5185m 0 | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185m 0 | 0 | 0 | 1 |
| Manganese | ppm ASTM D5185m 0 | 1 | 0 | 1 |
| Magnesium | ppm ASTM D5185m 9 | 13 | 13 | 14 |
| Calcium | ppm ASTM D5185m 3114 | 3076 | 3317 | 2882 |
| Phosphorus | ppm ASTM D5185m 1099 | 1100 | 1129 | 909 |
| Zinc | ppm ASTM D5185m 1245 | 1316 | 1294 | 1102 |
| Sulfur | ppm ASTM D5185m 7086 | 5193 | 5361 | 4178 |

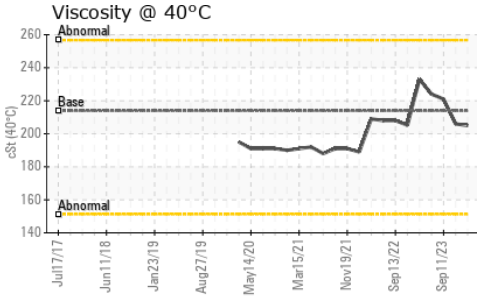
CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|---------------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185m >75 | 29 | 16 | 15 |
| Sodium | ppm ASTM D5185m | 1 | 0 | <1 |
| Potassium | ppm ASTM D5185m >20 | <1 | 2 | 2 |

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 >.2 | NEG | NEG | NEG |
| Free Water | scalar *Visual | NEG | NEG | NEG |

OIL ANALYSIS REPORT

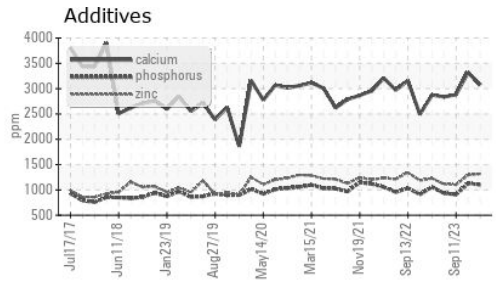
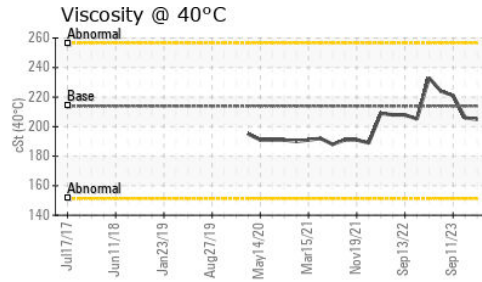
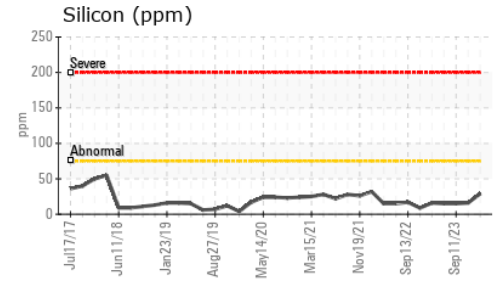
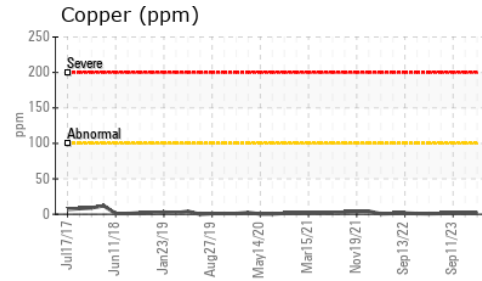
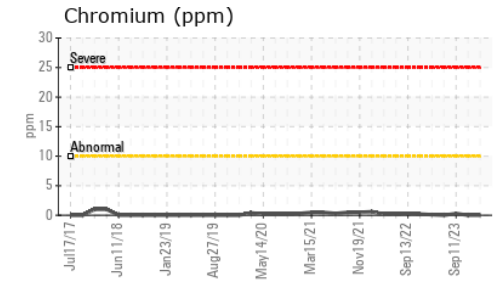
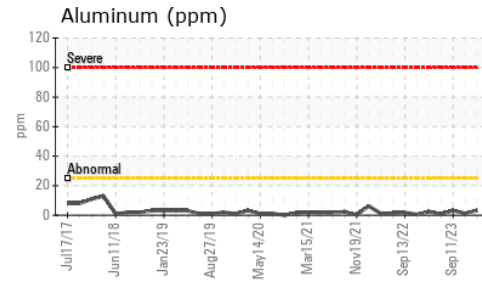
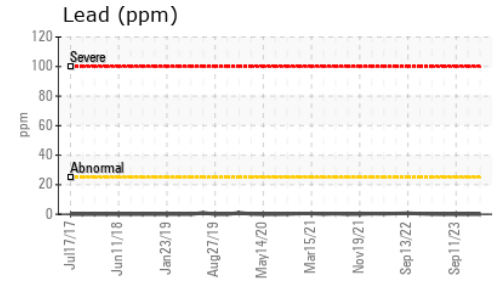
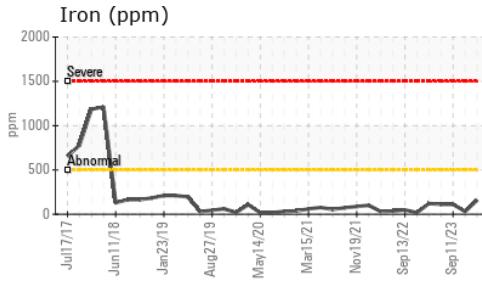


| FLUID PROPERTIES | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|------------|----------|-----|
| Visc @ 40°C | cSt | ASTM D445 | 213.9 | 205 | 206 | 221 |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|

| | | | | |
|--------|--|----------|----------|----------|
| Color | | no image | no image | no image |
| Bottom | | no image | no image | no image |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0086515
Lab Number : 06088383
Unique Number : 10875828
Test Package : MOB 1

Kemp Quarries - Muskogee Sand
 3395 W 50th St N
 Porter, OK
 US 74454

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)

muskogee@muskogeessand.com

T:
F: