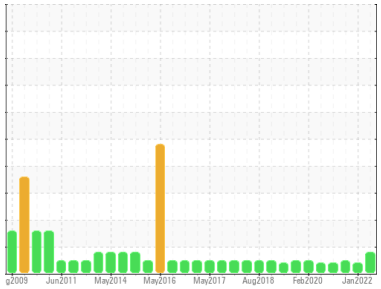
# OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
## PETERBILT 7708H
Component
**Hydraulic System**
Fluid
**CHEVRON DELO 400 MULTIGRADE 15W40 (60 GAL)**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. 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 a moderate amount of silt (particulates < 14 microns in size) present in the oil.

**Fluid Condition**
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **KL0012920** | KL0007901 | KL0006508 |
| Sample Date | | Client Info | | **06 Sep 2023** | 20 Jan 2022 | 19 Aug 2021 |
| Machine Age | mls | Client Info | | **48511** | 45889 | 42492 |
| Oil Age | mls | Client Info | | **0** | 0 | 42492 |
| Oil Changed | | Client Info | | **N/A** | Not Changd | N/A |
| Sample Status | | | | **ATTENTION** | ATTENTION | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **20** | 22 | 20 |
| Chromium | ppm | ASTM D5185m | >10 | **18** | 18 | 18 |
| Nickel | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Silver | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **2** | 8 | 8 |
| Lead | ppm | ASTM D5185m | >10 | **3** | 4 | 3 |
| Copper | ppm | ASTM D5185m | >75 | **31** | 33 | 35 |
| Tin | ppm | ASTM D5185m | >10 | **2** | 2 | 2 |
| Antimony | ppm | ASTM D5185m | | **---** | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 151 | **198** | 171 | 206 |
| Barium | ppm | ASTM D5185m | 0.4 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 250 | **60** | 55 | 60 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **683** | 538 | 587 |
| Calcium | ppm | ASTM D5185m | 2046 | **1324** | 1281 | 1444 |
| Phosphorus | ppm | ASTM D5185m | 1043 | **1007** | 929 | 1047 |
| Zinc | ppm | ASTM D5185m | 943 | **1191** | 1121 | 1239 |
| Sulfur | ppm | ASTM D5185m | 5012 | **3631** | 3240 | 3186 |

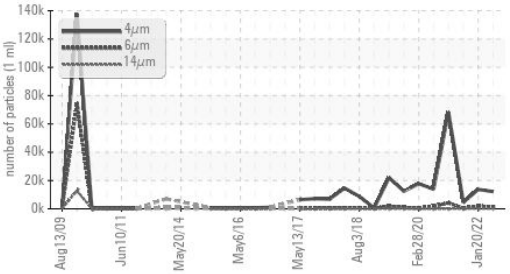
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >20 | **19** | 19 | 20 |
| Sodium | ppm | ASTM D5185m | | **4** | 4 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 3 | 2 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **12172** | 13710 | 4478 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **1304** | ▲ 1921 | 363 |
| Particles >14µm | | ASTM D7647 | >160 | **22** | 85 | 13 |
| Particles >21µm | | ASTM D7647 | >40 | **3** | 10 | 1 |
| Particles >38µm | | ASTM D7647 | >10 | **0** | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >17/14 | ▲ **18/12** | ▲ 18/14 | 16/11 |

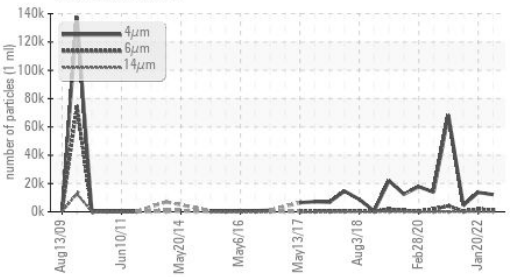
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **1.23** | 1.19 | 1.283 |

# OIL ANALYSIS REPORT

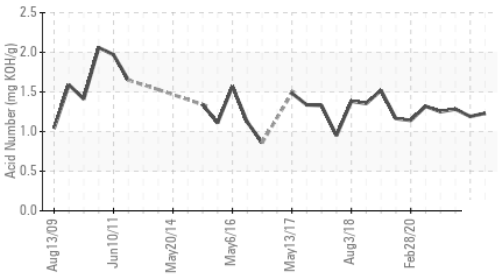
Particle Trend



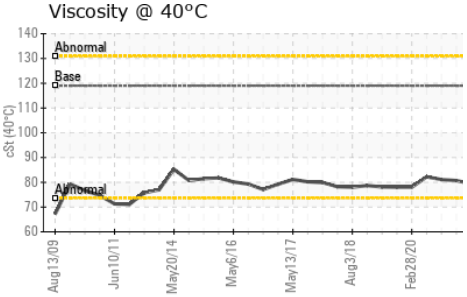

Particle Trend




Acid Number

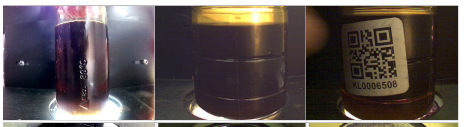
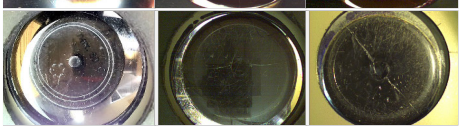



Viscosity @ 40°C



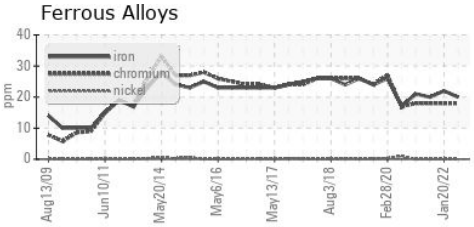

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | 119 | **81.2** | 79.4 | 80.7 |

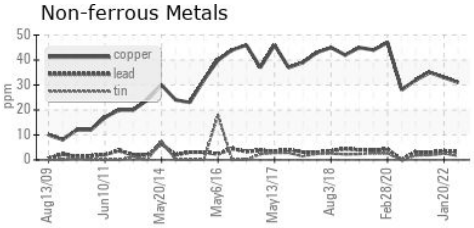
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

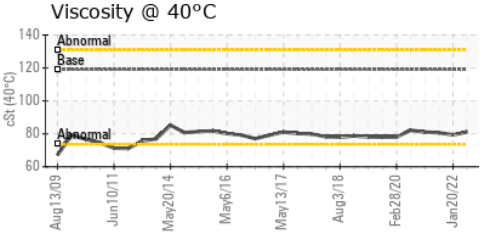
Ferrous Alloys



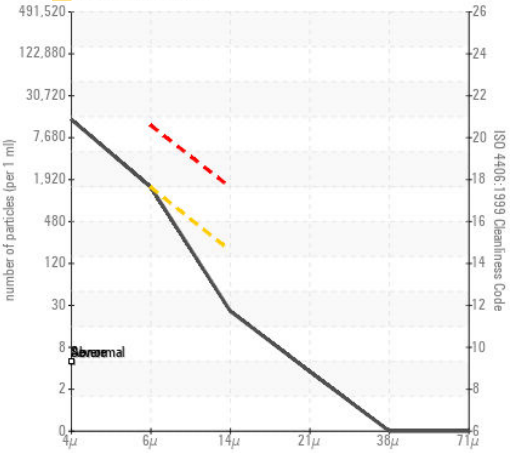

Non-ferrous Metals



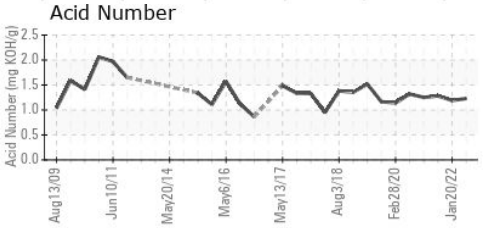

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KL0012920
**Lab Number** : 05965351
**Unique Number** : 10671902
**Test Package** : MOB 2

**Received** : 29 Sep 2023
**Diagnosed** : 02 Oct 2023
**Diagnostician** : Don Baldridge

*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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