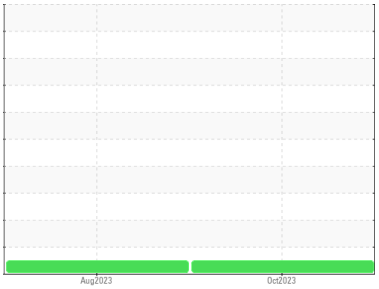
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## PETERBILT 6633
Component
**Diesel Engine**
Fluid
**GIBRALTAR 15W/40 SUPER S-3 LX (11 GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
Metal levels are typical for a new component breaking in.

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

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0850611** | WC0830861 | --- |
| Sample Date | | Client Info | | **16 Oct 2023** | 09 Aug 2023 | --- |
| Machine Age | hrs | Client Info | | **13353** | 12984 | --- |
| Oil Age | hrs | Client Info | | **360** | 150 | --- |
| Oil Changed | | Client Info | | **Changed** | Not Changd | --- |
| Sample Status | | | | **NORMAL** | NORMAL | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | --- |
| Glycol | | WC Method | | **NEG** | NEG | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >110 | **7** | 7 | --- |
| Chromium | ppm | ASTM D5185m | >4 | **<1** | <1 | --- |
| Nickel | ppm | ASTM D5185m | >2 | **0** | 0 | --- |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >25 | **1** | <1 | --- |
| Lead | ppm | ASTM D5185m | >45 | **0** | <1 | --- |
| Copper | ppm | ASTM D5185m | >85 | **0** | 1 | --- |
| Tin | ppm | ASTM D5185m | >4 | **<1** | <1 | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | --- |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **14** | 14 | --- |
| Barium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 66 | **60** | 71 | --- |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | --- |
| Magnesium | ppm | ASTM D5185m | 1000 | **881** | 898 | --- |
| Calcium | ppm | ASTM D5185m | 1050 | **1173** | 1394 | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | **1048** | 1090 | --- |
| Zinc | ppm | ASTM D5185m | 1270 | **1283** | 1312 | --- |
| Sulfur | ppm | ASTM D5185m | | **3271** | 3893 | --- |

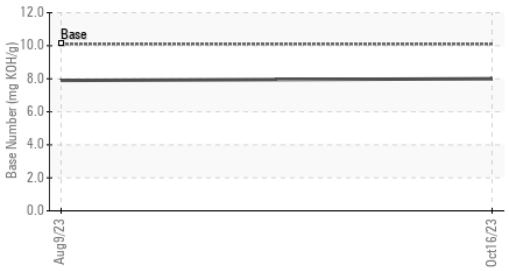
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >30 | **4** | 4 | --- |
| Sodium | ppm | ASTM D5185m | | **0** | 2 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **1** | 0 | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.7** | 0.4 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.3** | 8.8 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **20.0** | 19.5 | --- |

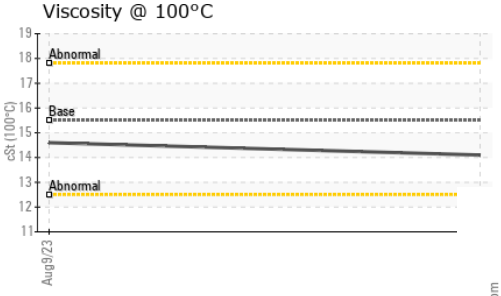
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **14.7** | 14.9 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.1 | **8.0** | 7.9 | --- |

# OIL ANALYSIS REPORT

Base Number




Viscosity @ 100°C

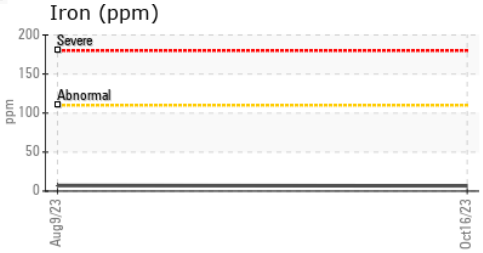



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.2 | **NEG** | NEG | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

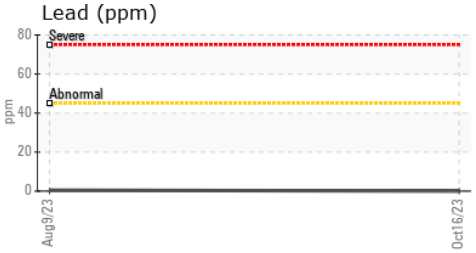
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | **14.1** | 14.6 | --- |

## GRAPHS

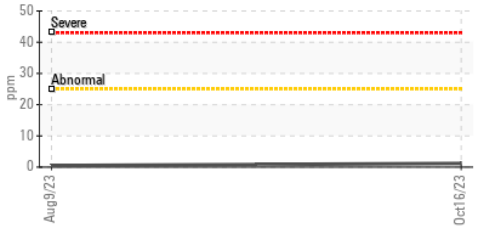
Iron (ppm)



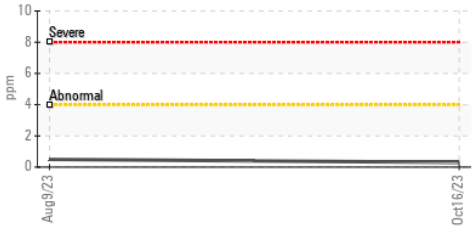

Lead (ppm)



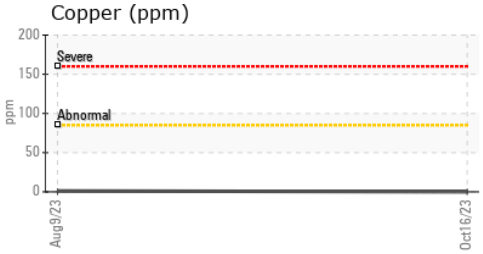

Aluminum (ppm)



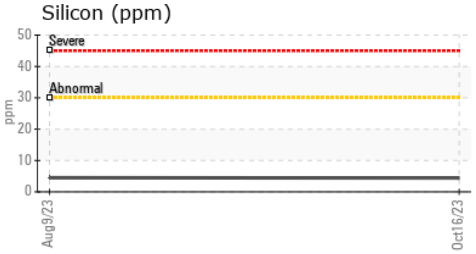

Chromium (ppm)



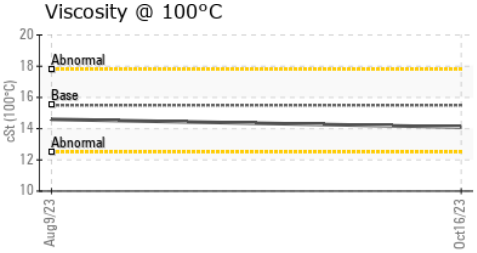

Copper (ppm)



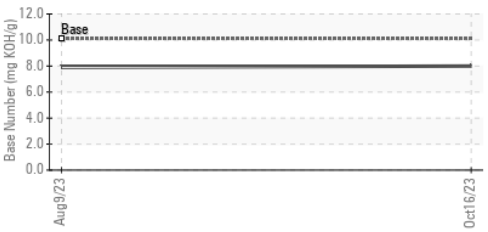

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0850611 **Received** : 14 Nov 2023
**Lab Number** : 06007493 **Diagnosed** : 15 Nov 2023
**Unique Number** : 10741255 **Diagnostician** : Wes Davis
**Test Package** : MOB 1 ( Additional Tests: TBN )

*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)*

**INTERSTATE WASTE-CLOSTER**
77 RAILROAD AVENUE
CLOSTER, NJ
US 07624
Contact: Tony Gagliano
tgagliano@interstatewaste.com
T:
F:

Report Id: INTCLO [WUSCAR] 06007493 (Generated: 11/15/2023 13:27:52) Rev: 1

Submitted By: Tony Gagliano