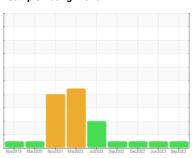


# **OIL ANALYSIS REPORT**

## Sample Rating Trend







# PETERBILT 68

Component

**Diesel Engine** 

**SCHAEFFER SUPREME 7000 (12 GAL)** 

## DIAGNOSIS

## Recommendation

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

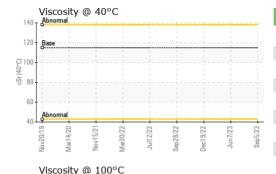
# **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Nov2019 Mar2020 Nov2021 Mar2022 Jul2022 Sep2022 Dec2022 Jun2023 Sep2023   |  |   |  |  |   |  |  |
|---|--|---|--|--|---|--|--|
| SAMPLE INFORM   | MATION   | method  | limit/base   | current  | history1  | history2   |  |
| Sample Number   |  | Client Info   |  | KL0011618  | KL0008411   | KL0008360  |  |
| Sample Date   |  | Client Info   |  | 05 Sep 2023  | 07 Jun 2023   | 19 Dec 2022  |  |
| Machine Age   | mls  | Client Info   |  | 947827   | 925512  | 917347   |  |
| Oil Age   | mls  | Client Info   |  | 30480  | 10165   | 19781  |  |
| Oil Changed   |  | Client Info   |  | Not Changd   | Not Changd  | Changed  |  |
| Sample Status   |  |   |  | NORMAL   | NORMAL  | NORMAL   |  |
| CONTAMINATIO  | V  | method  | limit/base   | current  | history1  | history2   |  |
| Fuel  |  | WC Method   | >5   | <1.0   | <1.0  | <1.0   |  |
| Glycol  |  | WC Method   |  | NEG  | NEG   | NEG  |  |
| WEAR METALS   |  | method  | limit/base   | current  | history1  | history2   |  |
| Iron  | ppm  | ASTM D5185m   | >100   | 61   | 18  | 29   |  |
| Chromium  | ppm  | ASTM D5185m   | >20  | 1  | <1  | <1   |  |
| Nickel  | ppm  | ASTM D5185m   | >2   | <1   | <1  | 0  |  |
| Titanium  | ppm  | ASTM D5185m   | >2   | 0  | 0   | 0  |  |
| Silver  | ppm  | ASTM D5185m   | >2   | 0  | <1  | 0  |  |
| Aluminum  | ppm  | ASTM D5185m   | >25  | 0  | 2   | <1   |  |
| Lead  | ppm  | ASTM D5185m   | >40  | 8  | <1  | <1   |  |
| Copper  | ppm  | ASTM D5185m   | >330   | 14   | 4   | 5  |  |
| Tin   | ppm  | ASTM D5185m   | >15  | <1   | <1  | <1   |  |
| Vanadium  | ppm  | ASTM D5185m   |  | <1   | 0   | 0  |  |
| Cadmium   | ppm  | ASTM D5185m   |  | 0  | 0   | 0  |  |
| ADDITIVEC   |  |   |  |  |   |  |  |
| ADDITIVES   |  | method  | limit/base   | current  | history1  | history2   |  |
| Boron   | ppm  | method ASTM D5185m  | limit/base   | current<br>90  | history1<br>59  | history2<br>147  |  |
|   | ppm<br>ppm   |   | limit/base   |  |   |  |  |
| Boron   |  | ASTM D5185m   | limit/base   | 90   | 59  | 147  |  |
| Boron<br>Barium   | ppm  | ASTM D5185m<br>ASTM D5185m  |  | 90<br>0  | 59<br>0   | 147<br>0   |  |
| Boron<br>Barium<br>Molybdenum   | ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   |  | 90<br>0<br>190   | 59<br>0<br>76   | 147<br>0<br>72   |  |
| Boron<br>Barium<br>Molybdenum<br>Manganese  | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 50   | 90<br>0<br>190<br><1   | 59<br>0<br>76<br><1   | 147<br>0<br>72<br><1   |  |
| Boron Barium Molybdenum Manganese Magnesium   | ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 50   | 90<br>0<br>190<br><1<br>267  | 59<br>0<br>76<br><1<br>60   | 147<br>0<br>72<br><1<br>133  |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium   | ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 50<br>1000<br>1400   | 90<br>0<br>190<br><1<br>267<br>1900  | 59<br>0<br>76<br><1<br>60<br>2029                                     | 147<br>0 72<br><1 133<br>2131  |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 50<br>1000<br>1400<br>985  | 90<br>0<br>190<br><1<br>267<br>1900<br>1015  | 59<br>0<br>76<br><1<br>60<br>2029<br>929                              | 147<br>0 72<br><1 133<br>2131<br>1023  |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 50<br>1000<br>1400<br>985<br>1060                                    | 90<br>0<br>190<br><1<br>267<br>1900<br>1015<br>1205                                    | 59<br>0<br>76<br><1<br>60<br>2029<br>929<br>1153                      | 147<br>0 72<br><1 133<br>2131<br>1023<br>1194  |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 50<br>1000<br>1400<br>985<br>1060<br>4000                            | 90<br>0<br>190<br><1<br>267<br>1900<br>1015<br>1205<br>4213                            | 59<br>0<br>76<br><1<br>60<br>2029<br>929<br>1153<br>5315              | 147<br>0<br>72<br><1<br>133<br>2131<br>1023<br>1194<br>5352                            |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 50<br>1000<br>1400<br>985<br>1060<br>4000<br>limit/base              | 90<br>0<br>190<br><1<br>267<br>1900<br>1015<br>1205<br>4213                            | 59<br>0<br>76<br><1<br>60<br>2029<br>929<br>1153<br>5315<br>history1  | 147<br>0<br>72<br><1<br>133<br>2131<br>1023<br>1194<br>5352<br>history2                |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m   | 50<br>1000<br>1400<br>985<br>1060<br>4000<br>limit/base              | 90<br>0<br>190<br><1<br>267<br>1900<br>1015<br>1205<br>4213<br>current                 | 59<br>0<br>76<br><1<br>60<br>2029<br>929<br>1153<br>5315<br>history1  | 147<br>0<br>72<br><1<br>133<br>2131<br>1023<br>1194<br>5352<br>history2                |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m   | 50<br>1000<br>1400<br>985<br>1060<br>4000<br>limit/base<br>>25       | 90<br>0<br>190<br><1<br>267<br>1900<br>1015<br>1205<br>4213<br>current<br>9<br>3       | 59 0 76 <1 60 2029 929 1153 5315 history1 6 1                         | 147<br>0<br>72<br><1<br>133<br>2131<br>1023<br>1194<br>5352<br>history2<br>5           |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium                                      | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m   | 50  1000 1400 985 1060 4000 limit/base >25 >20                       | 90<br>0<br>190<br><1<br>267<br>1900<br>1015<br>1205<br>4213<br>current<br>9<br>3<br><1 | 59 0 76 <1 60 2029 929 1153 5315 history1 6 1                         | 147<br>0<br>72<br><1<br>133<br>2131<br>1023<br>1194<br>5352<br>history2<br>5<br>0<br>1 |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED                            | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m   | 50  1000 1400 985 1060 4000 limit/base >25 >20 limit/base >3         | 90 0 190 <1 267 1900 1015 1205 4213 current 9 3 <1                                     | 59 0 76 <1 60 2029 929 1153 5315 history1 6 1 2                       | 147 0 72 <1 133 2131 1023 1194 5352 history2 5 0 1 history2                            |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %                     | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  method   | 50  1000 1400 985 1060 4000 limit/base >25 >20 limit/base >3         | 90 0 190 <1 267 1900 1015 1205 4213 current 9 3 <1 current                             | 59 0 76 <1 60 2029 929 1153 5315 history1 6 1 2 history1 0.5          | 147 0 72 <1 133 2131 1023 1194 5352 history2 5 0 1 history2 0.4                        |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration           | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m   | 50  1000 1400 985 1060 4000 limit/base >25 >20 limit/base >3 >20     | 90 0 190 <1 267 1900 1015 1205 4213 current 9 3 <1 current 1 10.5                      | 59 0 76 <1 60 2029 929 1153 5315 history1 6 1 2 history1 0.5 9.5      | 147 0 72 <1 133 2131 1023 1194 5352 history2 5 0 1 history2 0.4 8.8                    |  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  Method  *ASTM D5185m ASTM D7844  *ASTM D7624  *ASTM D76145 | 50  1000 1400 985 1060 4000 limit/base >25 >20 limit/base >3 >20 >30 | 90 0 190 <1 267 1900 1015 1205 4213  | 59 0 76 <1 60 2029 929 1153 5315 history1 6 1 2 history1 0.5 9.5 20.9 | 147 0 72 <1 133 2131 1023 1194 5352 history2 5 0 1 history2 0.4 8.8 19.4               |  |



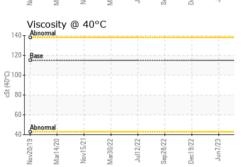
# **OIL ANALYSIS REPORT**



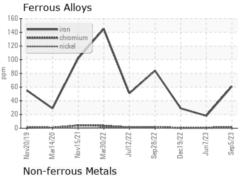
| VISUAL                  |        | method  | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal             | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal            | 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    |
| <b>Emulsified Water</b> | scalar | *Visual | >0.2       | NEG     | NEG      | NEG      |
| Free Water              | scalar | *Visual |            | NEG     | NEG      | NEG      |
|                         |        |         |            |         |          |          |

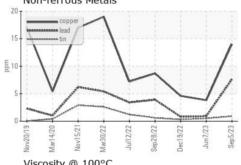
| Abnor | mal      |           |            |    |            |            |           |
|-------|----------|-----------|------------|----|------------|------------|-----------|
| 7     |          |           |            |    |            |            |           |
| Base  |          |           |            |    |            |            |           |
| 4     |          |           |            |    |            |            |           |
| Abnor |          |           |            |    |            |            | -         |
| Abnon | mal      |           |            |    |            |            |           |
|       |          |           |            |    |            |            |           |
| 2     |          |           |            |    |            |            |           |
|       | Mar14/20 | Nov15/21- | Mar30/22 - | 22 | Sep28/22 - | Jec19/22 - | Jun7/23 - |

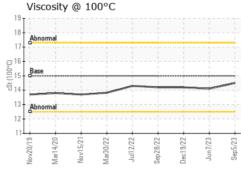
| FLUID PROPERTIES     |       | method     | limit/base | current | history1 | history2 |
|----------------------|-------|------------|------------|---------|----------|----------|
| Visc @ 40°C          | cSt   | ASTM D445  | 115        | 110.1   |          |          |
| Visc @ 100°C         | cSt   | ASTM D445  | 15         | 14.5    | 14.1     | 14.2     |
| Viscosity Index (VI) | Scale | ASTM D2270 | 133        | 134     |          |          |

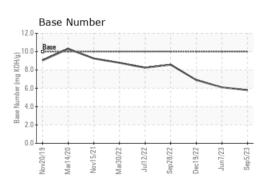


# **GRAPHS**













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10673460

: KL0011618 : 05966909

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 02 Oct 2023 Diagnosed

: 03 Oct 2023 Diagnostician : Wes Davis

Test Package : FLEET ( Additional Tests: KV40, VI ) 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.

JIMENEZ CUSTOM HARVESTING, INC.

1000 WEST BRADY CLOVIS, NM US 88101

Contact: JOHN JIMENEZ

juan@sileros.com T: (505)769-2786 F: (505)769-1817

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)