

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id **PETERBILT 1316** Component

Diesel Engine

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.

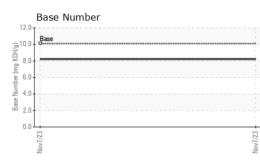
| SAMPLE INFORM | ATION | method | limit/base | current | history1 | history2 |
|---|--|--|---|---|--|--|
| Sample Number | | Client Info | | WC0864841 | | |
| Sample Date | | Client Info | | 07 Nov 2023 | | |
| Machine Age | hrs | Client Info | | 833 | | |
| Oil Age | hrs | Client Info | | 0 | | |
| Oil Changed | | Client Info | | Not Changd | | |
| Sample Status | | | | NORMAL | | |
| CONTAMINATIO | N | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | | |
| Glycol | | WC Method | | NEG | | |
| - | | un otto o d | | | Internet | histow.0 |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >110 | 42 | | |
| Chromium | ppm | ASTM D5185m | >4 | <1 | | |
| Nickel | ppm | ASTM D5185m | >2 | <1 | | |
| Titanium | ppm | ASTM D5185m | | <1 | | |
| Silver | ppm | ASTM D5185m | >2 | <1 | | |
| Aluminum | ppm | ASTM D5185m | >25 | 2 | | |
| Lead | ppm | ASTM D5185m | >45 | 1 | | |
| Copper | ppm | ASTM D5185m | >85 | 5 | | |
| Tin | ppm | ASTM D5185m | >4 | 0 | | |
| Vanadium | ppm | ASTM D5185m | | 0 | | |
| Cadmium | ppm | ASTM D5185m | | 0 | | |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | limit/base | current 27 | history1 | history2 |
| | ppm ppm | | limit/base | | | |
| Boron | | ASTM D5185m | limit/base 66 | 27 | | |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | | 27 6 | | |
| Boron Barium Molybdenum | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | | 27 6 64 | | |
| Boron Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 66 | 27 6 64 0 | | |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 66 1000 | 27 6 64 0 665 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 66 1000 1050 | 27 6 64 0 665 1288 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 66 1000 1050 1150 | 27 6 64 0 665 1288 972 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 66 1000 1050 1150 | 27 6 64 0 665 1288 972 1114 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 66 1000 1050 1150 1270 limit/base | 27 6 64 0 665 1288 972 1114 3900 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 66 1000 1050 1150 1270 limit/base | 27 6 64 0 665 1288 972 1114 3900 current | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method | 66 1000 1050 1150 1270 limit/base >30 | 27 6 64 0 665 1288 972 1114 3900 current 11 | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 66 1000 1050 1150 1270 limit/base >30 | 27 6 64 0 665 1288 972 1114 3900 current 11 0 | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 66 1000 1050 1150 1270 imit/base >30 >20 | 27 6 64 0 665 1288 972 1114 3900 current 11 0 2 | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 66 1000 1050 1150 1270 limit/base >30 >20 limit/base >3 | 27 6 64 0 665 1288 972 1114 3900 current 11 0 2 2 | history1 history1 | history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 66 1000 1050 1150 1270 limit/base >30 >20 limit/base >3 | 27 6 64 0 665 1288 972 1114 3900 current 11 0 2 current 0.3 | history1 history1 | history2 history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 66 1000 1050 1150 1270 1270 imit/base >30 >20 imit/base >3 >20 | 27 6 64 0 665 1288 972 1114 3900 current 11 0 2 current 0.3 6.2 | history1 history1 | history2 history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D7844 *ASTM D7844 | 66 1000 1050 1150 1270 imit/base >30 220 imit/base >3 >20 >30 | 27 6 64 0 665 1288 972 1114 3900 current 11 0 2 current 0.3 6.2 17.7 current | history1 history1 history1 | history2 history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 66 1000 1050 1150 1270 270 imit/base >30 imit/base >3 >20 >3 | 27 6 64 0 665 1288 972 1114 3900 current 11 0 2 current 0.3 6.2 17.7 | history1 history1 history1 history1 history1 | history2 history2 history2 history2 history2 |

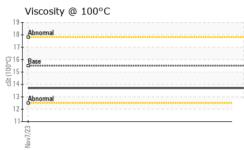


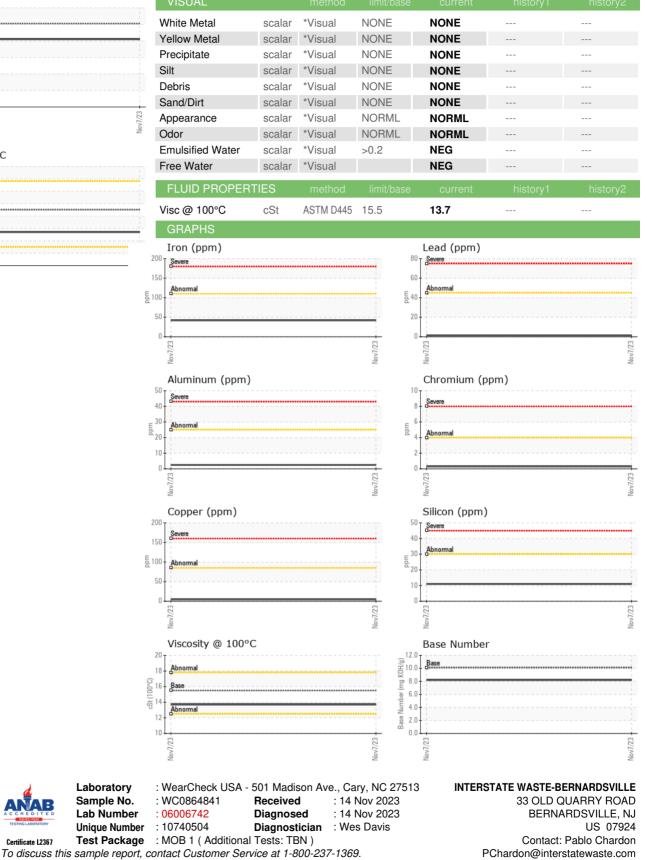




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* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

Certificate L2367

Laboratory

Sample No.

Lab Number

T:

F: