

# **OIL ANALYSIS REPORT**

Ewing Hauling PETERBILT 2590

Component

Diesel Engine

GIBRALTAR 15W/40 SUPER S-3 LX (11)

# Sample Rating Trend **NORMAL**

## Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

## Contamination

There is no indication of any contamination in the

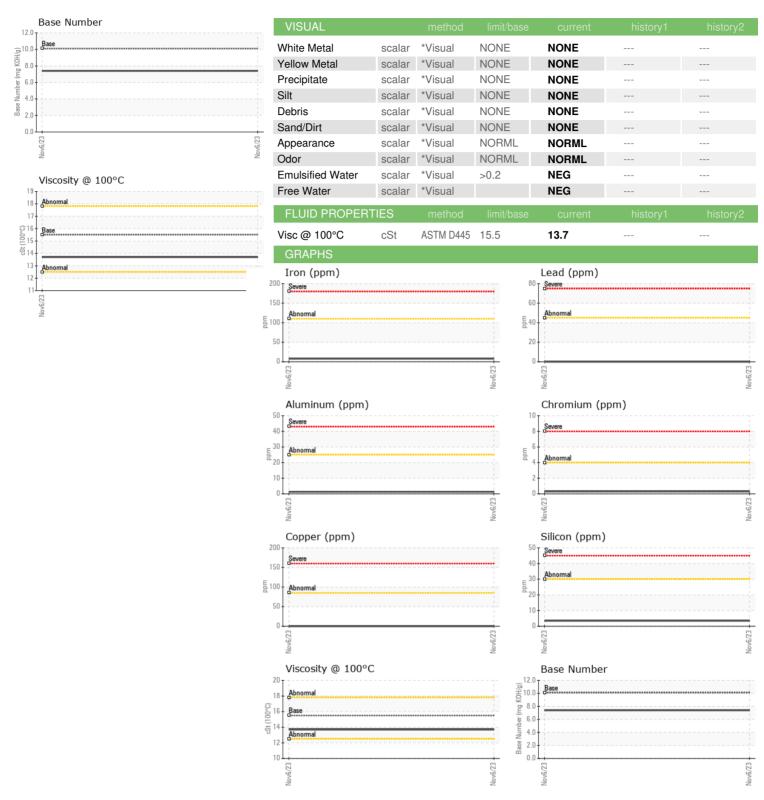
## **Fluid Condition**

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

|   |  |   |  | Nov2023  |                            |                                     |
|---|--|---|--|--|----------------------------|-------------------------------------|
| SAMPLE INFORM   | MATION   | method  | limit/base   | current  | history1                   | history2                            |
| Sample Number   |  | Client Info   |  | WC0863227  |                            |                                     |
| Sample Date   |  | Client Info   |  | 06 Nov 2023  |                            |                                     |
| Machine Age   | hrs  | Client Info   |  | 15679  |                            |                                     |
| Oil Age   | hrs  | Client Info   |  | 450  |                            |                                     |
| Oil Changed   |  | Client Info   |  | Changed  |                            |                                     |
| Sample Status   |  |   |  | NORMAL   |                            |                                     |
| CONTAMINATION   | ٧  | method  | limit/base   | current  | history1                   | history2                            |
| Fuel  |  | WC Method   | >5   | <1.0   |                            |                                     |
| Glycol  |  | WC Method   |  | NEG  |                            |                                     |
| WEAR METALS   |  | method  | limit/base   | current  | history1                   | history2                            |
| Iron  | ppm  | ASTM D5185m   | >110   | 8  |                            |                                     |
| Chromium  | ppm  | ASTM D5185m   | >4   | <1   |                            |                                     |
| Nickel  | ppm  | ASTM D5185m   | >2   | 0  |                            |                                     |
| Titanium  | ppm  | ASTM D5185m   |  | 0  |                            |                                     |
| Silver  | ppm  | ASTM D5185m   | >2   | 0  |                            |                                     |
| Aluminum  | ppm  | ASTM D5185m   | >25  | 1  |                            |                                     |
| Lead  | ppm  | ASTM D5185m   | >45  | 0  |                            |                                     |
| Copper  | ppm  | ASTM D5185m   | >85  | 0  |                            |                                     |
| Tin   | ppm  | ASTM D5185m   | >4   | 0  |                            |                                     |
| Vanadium  | ppm  | ASTM D5185m   |  | 0  |                            |                                     |
| Cadmium   | nnm  | ASTM D5185m   |  | •  |                            |                                     |
| Cadmidin  | ppm  | ASTIVI DOTOSIII   |  | 0  |                            |                                     |
| ADDITIVES   | ррпп   | method  | limit/base   | current  | history1                   | history2                            |
|   | ppm  |   | limit/base   |  |                            |                                     |
| ADDITIVES   |  | method  | limit/base   | current  | history1                   |                                     |
| ADDITIVES Boron   | ppm  | method<br>ASTM D5185m   | limit/base   | current  | history1                   | history2                            |
| ADDITIVES Boron Barium  | ppm<br>ppm   | method ASTM D5185m ASTM D5185m  |  | current<br>14<br>0   | history1                   | history2                            |
| ADDITIVES Boron Barium Molybdenum   | ppm<br>ppm<br>ppm  | method ASTM D5185m ASTM D5185m ASTM D5185m  |  | current 14 0 57  | history1                   | history2<br><br>                    |
| ADDITIVES  Boron Barium Molybdenum Manganese  | ppm<br>ppm<br>ppm  | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  | 66   | current 14 0 57 <1   | history1                   | history2                            |
| ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  | ppm<br>ppm<br>ppm<br>ppm   | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  | 66   | current  14  0  57  <1  521  | history1                   | history2                            |
| ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm                                    | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  | 66<br>1000<br>1050   | current  14  0  57  <1  521  1493  | history1                   | history2                            |
| ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | method ASTM D5185m  | 66<br>1000<br>1050<br>1150   | current  14  0  57  <1  521  1493  976   | history1                   | history2                            |
| ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | method ASTM D5185m  | 66<br>1000<br>1050<br>1150   | current  14  0  57  <1  521  1493  976  1154   | history1                   | history2                            |
| ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | method ASTM D5185m  | 1000<br>1050<br>1150<br>1270   | current  14  0  57  <1  521  1493  976  1154  3169   | history1                   | history2                            |
| ADDITIVES  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               | method ASTM D5185m  | 66<br>1000<br>1050<br>1150<br>1270   | current  14  0  57  <1  521  1493  976  1154  3169  current                                    | history1 history1          | history2 history2                   |
| ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINANTS  Silicon  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | method ASTM D5185m  | 66<br>1000<br>1050<br>1150<br>1270   | current  14  0  57  <1  521  1493  976  1154  3169  current                                    | history1 history1          | history2 history2                   |
| ADDITIVES  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        | method  ASTM D5185m   | 66<br>1000<br>1050<br>1150<br>1270<br>limit/base<br>>30                    | current  14  0  57  <1  521  1493  976  1154  3169  current  4  <1                             | history1 history1          | history2 history2                   |
| ADDITIVES  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        | method ASTM D5185m  | 66  1000 1050 1150 1270  limit/base >30 >20                                | current  14  0  57  <1  521  1493  976  1154  3169  current  4  <1  0                          | history1 history1          | history2 history2                   |
| ADDITIVES  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 | method  ASTM D5185m   | 66  1000 1050 1150 1270  limit/base >30  >20  limit/base                   | current  14  0  57  <1  521  1493  976  1154  3169  current  4  <1  0  current                 | history1 history1 history1 | history2 history2                   |
| ADDITIVES  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 | method  ASTM D5185m  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m   | 66  1000 1050 1150 1270  limit/base >30  >20  limit/base >3                | current  14  0  57  <1  521  1493  976  1154  3169  current  4  <1  0  current  0.9            | history1 history1 history1 | history2 history2 history2 history2 |
| ADDITIVES 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 | method ASTM D5185m  method ASTM D5185m  | 66  1000 1050 1150 1270  limit/base >30 >20 limit/base >3 >20              | current  14  0  57  <1  521  1493  976  1154  3169  current  4  <1  0  current  0.9  8.4       | history1 history1 history1 | history2 history2 history2          |
| ADDITIVES 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 | method  ASTM D5185m  method  ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D76185m ASTM D76185m ASTM D76185m | 66  1000 1050 1150 1270  limit/base >30  >20  limit/base >3 >20 >3 >20 >30 | current  14  0  57  <1  521  1493  976  1154  3169  current  4  <1  0  current  0.9  8.4  19.4 | history1 history1 history1 | history2 history2 history2          |



## **OIL ANALYSIS REPORT**







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** 

: 06010115 : 10749259

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0863227 Test Package : MOB 1 (Additional Tests: TBN)

Received : 16 Nov 2023 Diagnosed Diagnostician : Wes Davis

: 17 Nov 2023

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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