

# **PROBLEM SUMMARY**

## Area Action Newark Machine Id PETERBILT 2502

Component Diesel Engine

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

# COMPONENT CONDITION SUMMARY





Aluminum (ppm)	
45 Severe	
40	
35 -	
30	
Abnormal	
<sup>2</sup> 20 -	
15	
10	
5-	
23	23
:42	t24/
õ	õ

Resample at the next service interval to monitor.

PROBLEMATIC T	EST RE	SULTS			
Sample Status				ATTENTION	 
Visc @ 100°C	cSt	ASTM D445	15.5	<b>11.8</b>	 

Customer Id: INT110NEW Sample No.: WC0831023 Lab Number: 05997301 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Sean Felton +1 919-379-4092 sfelton@wearcheckusa.com

*To change component or sample information:* Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u> There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS



# **OIL ANALYSIS REPORT**

Area Action Newark **PETERBILT 2502** Component

**Diesel Engine** Fluid

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

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

# Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.



Sample Number		Client Info		WC0831023		
Sample Date		Client Info		24 Oct 2023		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				ATTENTION		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	73		
Chromium	ppm	ASTM D5185m	>4	<1		
Nickel	ppm	ASTM D5185m	>2	<1		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>25	21		
Lead	ppm	ASTM D5185m	>45	<1		
Copper	ppm	ASTM D5185m	>85	21		
Tin	ppm	ASTM D5185m	>4	<1		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		<1		
ADDITIVES		method	limit/base	current	history1	history2
Boron	nnm	ASTM D5185m		11		
	ppm	AGTIVI DOTODITI		44		
Barium	ppm	ASTM D5185m		<1		
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	66	<1 11		
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66	<1 11 2		
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000	<1 <1 11 2 721	 	 
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050	<1 <ul> <li>&lt;1</li> <li>11</li> <li>2</li> <li>721</li> <li>1418</li> </ul>		
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	<1 <1 11 2 721 1418 646	  	  
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 1270	<1 <ul> <li>&lt;1</li> <li>2</li> <li>721</li> <li>1418</li> <li>646</li> <li>840</li> </ul>	    	   
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	<pre></pre>		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	66 1000 1050 1150 1270 limit/base	<pre>-++ </pre> <1 11 2 721 1418 646 840 3522 current	     history1	     history2
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 ASTM D5185m	66 1000 1050 1150 1270 Iimit/base >30	<pre>-++ </pre> <1 11 2 721 1418 646 840 3522  current 10	     history1	     history2
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 <b>method</b> ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 limit/base >30	<1 11 2 721 1418 646 840 3522 current 10 0	     history1 	     history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 <b>limit/base</b> >30 >20	<pre>-++ </pre> <1 11 2 721 1418 646 840 3522  current 10 0 63	     history1  	      history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 1270 ilmit/base >30 >20 >5	<pre>-++ </pre> <1 11 2 721 1418 646 840 3522  current 10 0 63 0.3	      history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 30 S30 >20 >5 Limit/base	<pre>-++ </pre> <1 11 2 721 1418 646 840 3522  current 10 0 63 0.3  current	     history1    history1	      history2    history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D51854	66 1000 1050 1150 1270 270 30 30 >20 >5 5 1imit/base >3	<pre>-++ </pre> <1 11 2 721 1418 646 840 3522  current 10 0 63 0.3  current 0.3	      history1    history1	     history2    history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D51854	66 1000 1050 1150 1270 270 30 >20 >5 1imit/base >3 >20	<pre>-++ </pre> <1 11 2 721 1418 646 840 3522  current 10 0 63 0.3  current 0.3 9.8	      history1    history1	      history2    history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 <b>method</b> *ASTM D7844 *ASTM D7844	66 1000 1050 1150 1270 <b>limit/base</b> >30 >20 >5 <b>limit/base</b> >3 >20 >30	<ul> <li>&lt;1</li> <li>11</li> <li>2</li> <li>721</li> <li>1418</li> <li>646</li> <li>840</li> <li>3522</li> <li>current</li> <li>10</li> <li>0</li> <li>63</li> <li>0.3</li> <li>current</li> <li>0.3</li> <li>9.8</li> <li>22.0</li> </ul>	       history1          -	     history2    history2  history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 20 >30 20 >5 limit/base >3 >20 >3 >20 >3 >30	<ul> <li>&lt;1</li> <li>11</li> <li>2</li> <li>721</li> <li>1418</li> <li>646</li> <li>840</li> <li>3522</li> <li>current</li> <li>10</li> <li>0</li> <li>63</li> <li>0.3</li> <li>current</li> <li>0.3</li> <li>9.8</li> <li>22.0</li> <li>current</li> </ul>	      history1   history1  history1  history1	      history2   history2  history2  history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5244 *ASTM D7844 *ASTM D7844 *ASTM D7414	66 1000 1050 1150 1270 <b>Iimit/base</b> >30 >20 >5 <b>Iimit/base</b> >30 >20 >30 20 >30	<pre>-++ </pre> <1 11 2 721 1418 646 840 3522  current 10 0 63 0.3  current 0.3 9.8 22.0  current 17.3	      history1    history1    history1	 history2    history2   history2  history2



# **OIL ANALYSIS REPORT**

