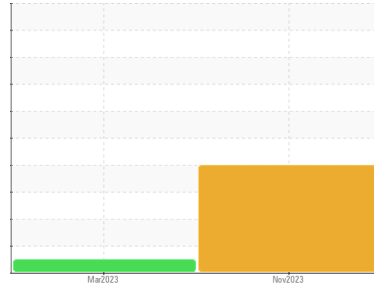




# PROBLEM SUMMARY

Sample Rating Trend



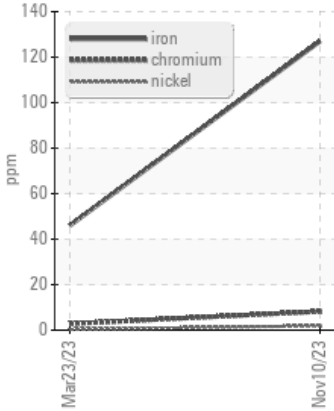
Machine Id  
**PETERBILT 2405**

Component  
**Diesel Engine**

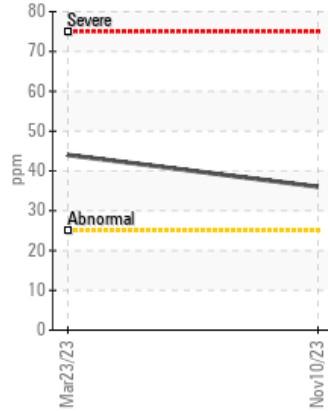
Fluid  
**DIESEL ENGINE OIL SAE 5W30 (44 QTS)**

## COMPONENT CONDITION SUMMARY

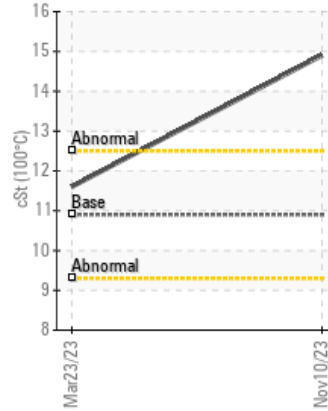
▲ Ferrous Alloys



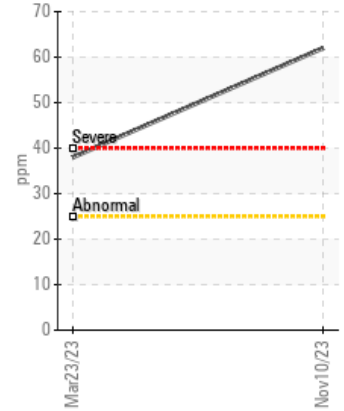
▲ Silicon (ppm)



▲ Viscosity @ 100°C



Aluminum (ppm)



## RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	---
Iron	ppm	ASTM D5185m	>100	▲ 127	46	---
Silicon	ppm	ASTM D5185m	>25	▲ 36	44	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	▲ 0.0	5.8	---
Visc @ 100°C	cSt	ASTM D445	10.9	▲ 14.9	11.6	---

Customer Id: MABEDE  
Sample No.: WC0876678  
Lab Number: 06017227  
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Jonathan Hester +1 919-379-4092 x4092  
[jhester@wearcheckusa.com](mailto:jhester@wearcheckusa.com)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

## HISTORICAL DIAGNOSIS

**23 Mar 2023 Diag: Wes Davis**

NORMAL



Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. Metal levels are typical for a components first oil change. 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. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

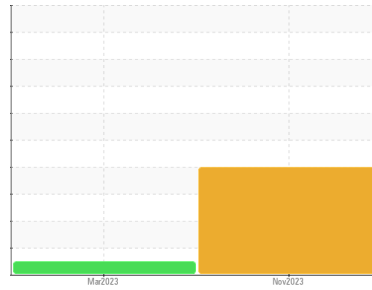
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id  
**PETERBILT 2405**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 5W30 (44 QTS)**

## DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

Cylinder, crank, or cam shaft wear is indicated.

### Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material. 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.

### Fluid Condition

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

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0876678</b>	WC0786075	---
Sample Date	Client Info		<b>10 Nov 2023</b>	23 Mar 2023	---
Machine Age	mls	Client Info	<b>133875</b>	52788	---
Oil Age	mls	Client Info	<b>50000</b>	52788	---
Oil Changed	Client Info		<b>Changed</b>	Not Changd	---
Sample Status			<b>ABNORMAL</b>	NORMAL	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water	WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol	WC Method		<b>NEG</b>	NEG	---

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	<b>▲ 127</b>	46	---
Chromium	ppm	ASTM D5185m	>20	<b>8</b>	3	---
Nickel	ppm	ASTM D5185m	>2	<b>2</b>	<1	---
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	---
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	---
Aluminum	ppm	ASTM D5185m	>25	<b>62</b>	38	---
Lead	ppm	ASTM D5185m	>40	<b>13</b>	5	---
Copper	ppm	ASTM D5185m	>330	<b>32</b>	20	---
Tin	ppm	ASTM D5185m	>15	<b>6</b>	4	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	250	<b>16</b>	33	---
Barium	ppm	ASTM D5185m	10	<b>0</b>	4	---
Molybdenum	ppm	ASTM D5185m	100	<b>66</b>	65	---
Manganese	ppm	ASTM D5185m		<b>7</b>	6	---
Magnesium	ppm	ASTM D5185m	450	<b>507</b>	492	---
Calcium	ppm	ASTM D5185m	3000	<b>1703</b>	1861	---
Phosphorus	ppm	ASTM D5185m	1150	<b>844</b>	1016	---
Zinc	ppm	ASTM D5185m	1350	<b>1262</b>	1305	---
Sulfur	ppm	ASTM D5185m	4250	<b>2880</b>	3271	---

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>▲ 36</b>	44	---
Sodium	ppm	ASTM D5185m		<b>5</b>	4	---
Potassium	ppm	ASTM D5185m	>20	<b>175</b>	98	---

## INFRA-RED

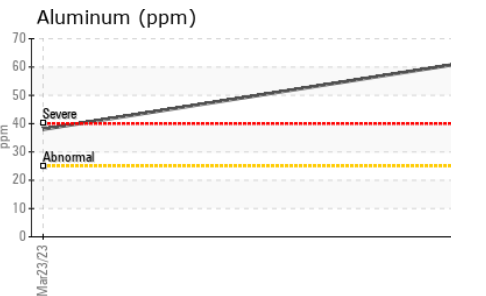
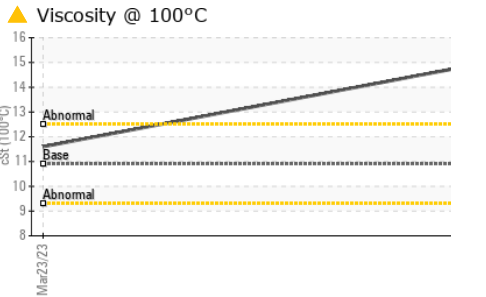
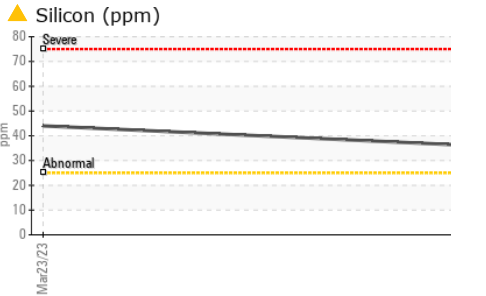
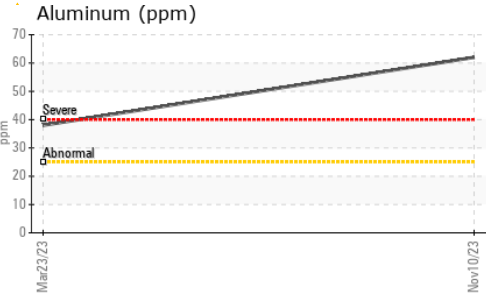
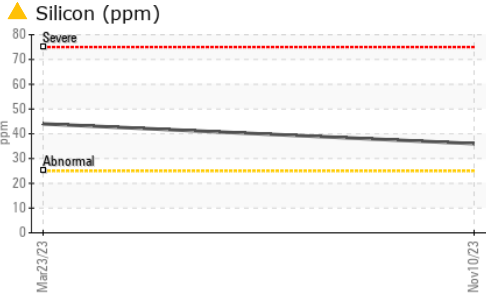
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.3	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>22.3</b>	9.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>37.5</b>	23.3	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>55.8</b>	21.5	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>▲ 0.0</b>	5.8	---



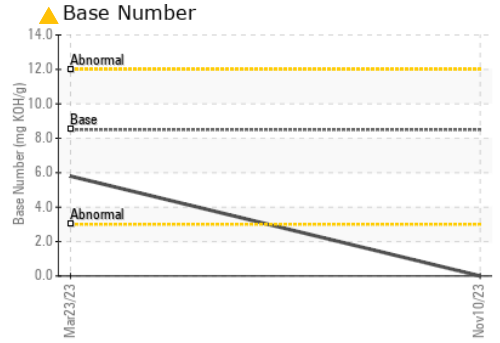
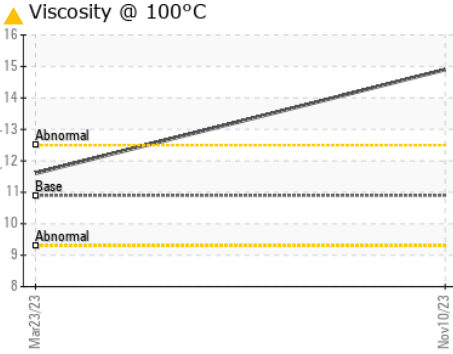
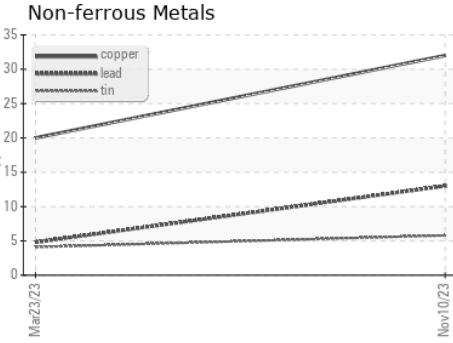
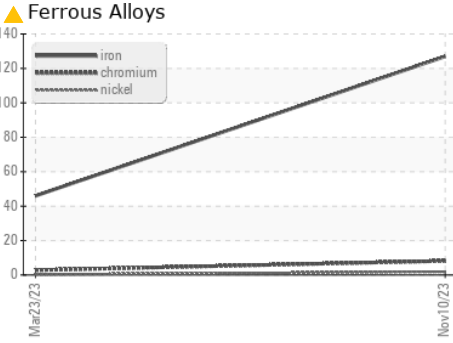
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	▲ 14.9	11.6	---

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0876678 **Received** : 24 Nov 2023  
**Lab Number** : 06017227 **Diagnosed** : 29 Nov 2023  
**Unique Number** : 10756371 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET

**MABE TRUCKING**  
 PO BOX 1081  
 EDEN, NC  
 US 27289

Certificate L2367  
 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)

Contact: MAINTENANCE  
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