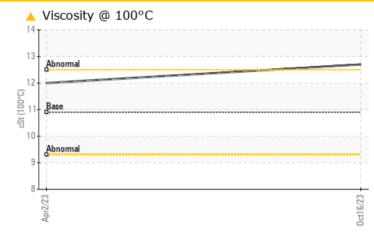


Machine Id PETERBILT 2407

Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 5W30 (44 QTS)

COMPONENT CONDITION SUMMARY



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			
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<u> </u>	5.3			
Visc @ 100°C	cSt	ASTM D445	10.9	12.7	12.0			

Customer Id: MABEDE Sample No.: WC0836297 Lab Number: 05996189 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 <u>jhester@wearcheckusa.com</u>

To change component or sample information: Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>

RECOMMENDED	OMMENDED 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



02 Apr 2023 Diag: Wes Davis

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 new component breaking in. 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.





OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION

PETERBILT 2407

Component Diesel Engine

Fluid DIESEL ENGINE OIL SAE 5W30 (44 QTS)

DIAGNOSIS

A Recommendation

Oil and filter change at the time of sampling has been noted. 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.

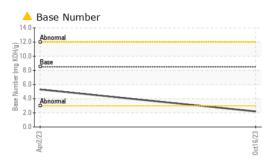
Fluid Condition

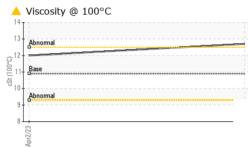
The oil viscosity is higher than normal. The BN level is low. Confirm oil type.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0836297	WC0786066	
Sample Date		Client Info		16 Oct 2023	02 Apr 2023	
Machine Age	mls	Client Info		104558	54310	
Oil Age	mls	Client Info		50000	50000	
Oil Changed		Client Info		Changed	Not Changd	
Sample Status				ABNORMAL	NORMAL	
CONTAMINATION	J	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	97	57	
Chromium	ppm	ASTM D5185m		6	3	
Nickel	ppm	ASTM D5185m	>2	1	<1	
Titanium	ppm	ASTM D5185m		<1	<1	
Silver	ppm	ASTM D5185m	>2	<1	<1	
Aluminum	ppm	ASTM D5185m		40	31	
Lead	ppm	ASTM D5185m	>40	40 10	6	
Copper	ppm	ASTM D5185m		24	26	
Tin	ppm	ASTM D5185m	>15	5	4	
		ASTIVI DJ I OJITI	210	5	4	
		ASTM D5185m		0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Vanadium Cadmium		ASTM D5185m		0	0	
Vanadium Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	
Vanadium Cadmium ADDITIVES	ppm	ASTM D5185m	limit/base 250	0	0 history1 35	
Vanadium Cadmium ADDITIVES Boron Barium	ppm ppm	ASTM D5185m method		0 current 22 3	0 history1 35 0	
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	250	0 current 22 3 62	0 history1 35	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	250 10	0 current 22 3	0 history1 35 0	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	250 10	0 current 22 3 62	0 history1 35 0 65	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	0 current 22 3 62 5 5 559 1570	0 history1 35 0 65 5 482 1781	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	0 current 22 3 62 5 559	0 history1 35 0 65 5 482	 history2
Vanadium Cadmium	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	0 current 22 3 62 5 5 559 1570	0 history1 35 0 65 5 482 1781	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	0 current 22 3 62 5 559 1570 974	0 history1 35 0 65 5 482 1781 985	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	0 current 22 3 62 5 559 1570 974 1235	0 history1 35 0 65 5 482 1781 985 1296	 history2 -
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	0 current 22 3 62 5 559 1570 974 1235 2398	0 history1 35 0 65 5 482 1781 985 1296 2903	 history2 -
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	0 current 22 3 62 5 559 1570 974 1235 2398 current	0 history1 35 0 65 5 482 1781 985 1296 2903 history1	 history2 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	0 current 22 3 62 5 559 1570 974 1235 2398 current 36	0 history1 35 0 65 5 482 1781 985 1296 2903 history1 43	 history2 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	0 current 22 3 62 5 559 1570 974 1235 2398 current 36 6	0 history1 35 0 65 5 482 1781 985 1296 2903 history1 43 5	 history2 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20	0 current 22 3 62 5 559 1570 974 1235 2398 current 36 6 96	0 history1 35 0 65 5 482 1781 985 1296 2903 history1 43 5 5 99	 history2 history2 history2
Vanadium Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 iimit/base >25 >20 iimit/base >3	0 current 22 3 62 5 559 1570 974 1235 2398 current 36 6 96 current	0 history1 35 0 65 5 482 1781 985 1296 2903 history1 43 5 5 9 9 59 history1	 history2 history2 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 iimit/base >25 >20 iimit/base >3	0 current 22 3 62 5 559 1570 974 1235 2398 current 36 6 96 current 0.7	0 history1 35 0 65 5 482 1781 985 1296 2903 history1 43 5 5 59 history1 0.4	 history2 history2 history2 history2
Vanadium Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 .25 .20 limit/base >3 .3	0 current 22 3 62 5 559 1570 974 1235 2398 current 36 6 96 96 current 0.7 15.5	0 history1 35 0 65 5 482 1781 985 1296 2903 history1 43 5 59 59 history1 0.4 9.9	 history2 history2 history2 history2
Vanadium Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185	250 10 100 450 3000 1150 1350 4250 limit/base >25 	0 current 22 3 62 5 559 1570 974 1235 2398 current 36 6 96 current 0.7 15.5 30.8	0 history1 35 0 65 5 482 1781 985 1296 2903 history1 43 5 59 history1 0.4 9.9 23.2	 history2 history2 history2 history2



OIL ANALYSIS REPORT





cSt (100°C)

10

8 Apr2/23 -

Laboratory

Sample No.

Lab Number

Abnorma

: WC0836297

: 05996189

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPERTI	ES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	12.7	12.0	
GRAPHS						
Ferrous Alloys						
nickel			Octi 6/23			
ج Non-ferrous Metals			Oct1			
copper						
0+						
5						
10-		and and and and and and the local division of the local division o	RATES OF			
5 -						
0			6/23			
			0ct16/23 +			
Apr2/23				Base Numbe	r	
Viscosity @ 100°C			14.0	Abnormal	r	
Apr2/23			14.0	Abnormal	r	
Viscosity @ 100°C			14.0	Abnormal	r	

Abno 2.0 0.0

Apr2/23

umber 6.0

Base | 4.0

0ct16/23 -

: 01 Nov 2023

: 06 Nov 2023



Unique Number : 10724549 Diagnostician : Jonathan Hester Test Package : FLEET Contact: MAINTENANCE Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. maintenancemanager@mabetrucking.com * - 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) F: (336)635-1791

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

Contact/Location: MAINTENANCE ? - MABEDE

Oct16/23 -

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EDEN, NC

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