

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id **PETERBILT 929134** Component **Diesel Engine** Fluid **NOT GIVEN (--- GAL)** 

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

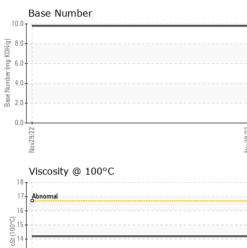
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0064520		
Sample Date		Client Info		29 Nov 2022		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	29		
Chromium	ppm	ASTM D5185m	>4	<1		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>25	11		
Lead	ppm	ASTM D5185m	>45	11		
Copper	ppm	ASTM D5185m	>85	2		
Tin	ppm	ASTM D5185m	>4	<1		
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	-	history1	history2
			limit/base	current		
Boron	ppm	ASTM D5185m	limit/base	current 169		
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	current 169 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 169 0 213 <1 850		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           169           0           213           <1           850           1476		
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	limit/base	current           169           0           213           <1           850           1476           948		
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	limit/base	current           169           0           213           <1           850           1476           948           1191		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		Current 169 0 213 <1 850 1476 948 1191 3703		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           169           0           213           <1           850           1476           948           1191           3703           current	     history1	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm 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		current           169           0           213           <1           850           1476           948           1191           3703           current           6	     history1 	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm 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	limit/base >30	current           169           0           213           <1           850           1476           948           1191           3703           current           6           2	     history1	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >20	current           169           0           213           <1           850           1476           948           1191           3703           current           6           2           20	     history1  	    history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base	current           169           0           213           <1           850           1476           948           1191           3703           current           6           2           20           current	     history1	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base >3	current           169           0           213           <1           850           1476           948           1191           3703           current           6           2           20           current           1.1	     history1  	    history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base >3 >20	current           169           0           213           <1           850           1476           948           1191           3703           current           6           2           20           current           1.1           11.3	     history1   history1  	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base >3	current           169           0           213           <1           850           1476           948           1191           3703           current           6           2           20           current           1.1	    history1   history1	    history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base >3 >20	current           169           0           213           <1           850           1476           948           1191           3703           current           6           2           20           current           1.1           11.3	     history1   history1  	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	Imit/base >30 >20 Imit/base >30 >20 >30 >20 >30 >30 >30	current           169           0           213           <1           850           1476           948           1191           3703           current           6           2           20           current           1.1           11.3           25.6	     history1  history1	    history2  history2  history2



13 Abnormal 12. 11 Nov29/22

# **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		
Vov29/22 -	Appearance	scalar	*Visual	NORML	NORML		
Nov2	Odor	scalar	*Visual	NORML	NORML		
٥C	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
1	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445		14.2		
	GRAPHS						
	Ferrous Alloys						
	<sup>30</sup> T						
	25 - chromium						
	20 nickel						
	톱 15-						
	10-						
	5						
	0						
	0 - 1			9/22			
	Nov29/22			Nov29/22			
	Non-ferrous Metal	s					
	12 copper			1			
	10						
	8 -						
	튭 6						
	4						
	2-						
	0						
	, 10v29/22 -			lov29/22 ·			
	Nov2			Nov2			
	Viscosity @ 100°C				Base Number		
	18			10.0			
	17- Abnormal						
	16 -			6.0 6.0 8386 Mrmber 4.0			
	(2-001) 314			P 6.0			
	5,14			mper de la			
	12			N N N N N N N N N N N N N N N N N N N			
	12 - Abnormal			<sup>66</sup> 2.0			
	11						
	9/22				9/22		9/22 -
	Nov29/22			Nov29/22	Nov29/22		Nov29/22
Certificate L2367	: 05708127 I : 10242702 I : FLEET	Received Diagnose Diagnost	d : 05   ed : 06   iician : We	Dec 2022 Dec 2022 s Davis	GFL Enviro	Contact: F	hway 60 West Lewisport, KY US 42351 lobert Thibault
To discuss this sample report,							t@gflenv.com
* - Denotes test methods that a Statements of conformity to spec					JCGM 106:2012)	F: (	193)123-7604 F:

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