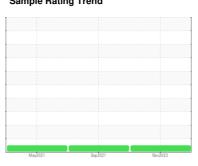


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



PETERBILT 5

Component

Diesel Engine

PETRO CANADA DURON XL SYN BLEND

DIAGNOSIS

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

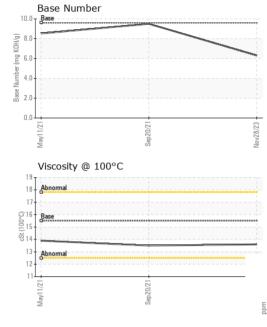
Fluid Condition

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

Sample Number Client Info PCA0096395 PCA0053870 PCA003046 Sample Date Client Info 28 Nov 2023 20 Sep 2021 11 May 2027 Machine Age mls Client Info 652143 555036 533769 Oil Age mls Client Info 20000 20000 20000 20000 Oil Changed Client Info Changed Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	5W40 (GAL)		Ma	y2021	Sep2021 Nov20	23	
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 652143 555036 533769	Sample Number		Client Info		PCA0096395	PCA0053870	PCA0030460
Coli Age	Sample Date		Client Info		28 Nov 2023	20 Sep 2021	11 May 2021
Colichanged Client Info Changed NORMAL	Machine Age	mls	Client Info		652143	555036	533769
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2 NEG N	Oil Age	mls	Client Info		20000	20000	20000
CONTAMINATION method limit/base current history1 history2	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG NEG <t< td=""><td>CONTAMINAT</td><td>ION</td><td>method</td><td>limit/base</td><td>current</td><td>history1</td><td>history2</td></t<>	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 6 7 6 Chromium ppm ASTM D5185m >20 0 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Control Cont	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 0 <1 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	6	7	6
Silver	Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>4	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		0	<1	<1
Lead	Silver	ppm	ASTM D5185m	>3	0	<1	0
Copper ppm ASTM D5185m >330 2 1 1 Tin ppm ASTM D5185m >-15 0 <1	Aluminum	ppm	ASTM D5185m	>20	1	1	0
Tin	Lead	ppm	ASTM D5185m	>40	0	1	<1
Trin	Copper	ppm	ASTM D5185m	>330	2	1	1
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 1 0 6 5 Barium ppm ASTM D5185m 1 0 0 0 Molybdenum ppm ASTM D5185m 1 0 0 0 Manganese ppm ASTM D5185m 1 0 <1 <1 Magnesium ppm ASTM D5185m 1070 916 1139 1087 Phosphorus ppm ASTM D5185m 1270 1250 1149 1149 Sulfur ppm ASTM D5185m 2060 2932 2640 2694 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9		ppm	ASTM D5185m	>15	0	<1	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 1 0 6 5 Barium ppm ASTM D5185m 1 0 0 0 Molybdenum ppm ASTM D5185m 1 0 <1	Antimony	ppm	ASTM D5185m			0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 1 0 6 5 Barium ppm ASTM D5185m 1 0 0 0 Molybdenum ppm ASTM D5185m 1 0 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 1 0 0 0 Molybdenum ppm ASTM D5185m 60 57 59 58 Manganese ppm ASTM D5185m 1 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 57 59 58 Manganese ppm ASTM D5185m 1 0 <1 <1 Magnesium ppm ASTM D5185m 1010 1097 947 924 Calcium ppm ASTM D5185m 1070 916 1139 1087 Phosphorus ppm ASTM D5185m 1150 1004 1080 1018 Zinc ppm ASTM D5185m 1270 1250 1149 1149 Sulfur ppm ASTM D5185m 2060 2932 2640 2694 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m >20 3 <1 1 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3	Boron	ppm	ASTM D5185m	1	0	6	5
Manganese ppm ASTM D5185m 1 0 <1 <1 Magnesium ppm ASTM D5185m 1010 1097 947 924 Calcium ppm ASTM D5185m 1070 916 1139 1087 Phosphorus ppm ASTM D5185m 1150 1004 1080 1018 Zinc ppm ASTM D5185m 1270 1250 1149 1149 Sulfur ppm ASTM D5185m 2060 2932 2640 2694 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m >20 3 <1	Barium	ppm	ASTM D5185m	1	0	0	0
Magnesium ppm ASTM D5185m 1010 1097 947 924 Calcium ppm ASTM D5185m 1070 916 1139 1087 Phosphorus ppm ASTM D5185m 1150 1004 1080 1018 Zinc ppm ASTM D5185m 1270 1250 1149 1149 Sulfur ppm ASTM D5185m 2060 2932 2640 2694 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m >20 3 <1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 9.0 8.8 8.8 Sulfation Abs/.1mm *ASTM D7	Molybdenum	ppm	ASTM D5185m	60	57	59	58
Calcium ppm ASTM D5185m 1070 916 1139 1087 Phosphorus ppm ASTM D5185m 1150 1004 1080 1018 Zinc ppm ASTM D5185m 1270 1250 1149 1149 Sulfur ppm ASTM D5185m 2060 2932 2640 2694 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m >20 3 <1	Manganese	ppm	ASTM D5185m	1	0	<1	<1
Phosphorus ppm ASTM D5185m 1150 1004 1080 1018 Zinc ppm ASTM D5185m 1270 1250 1149 1149 Sulfur ppm ASTM D5185m 2060 2932 2640 2694 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m >20 3 <1	Magnesium	ppm	ASTM D5185m	1010	1097	947	924
Zinc ppm ASTM D5185m 1270 1250 1149 1149 Sulfur ppm ASTM D5185m 2060 2932 2640 2694 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m <1	Calcium	ppm	ASTM D5185m	1070	916	1139	1087
Sulfur ppm ASTM D5185m 2060 2932 2640 2694 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m <1	Phosphorus	ppm	ASTM D5185m	1150	1004	1080	1018
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m	1270	1250	1149	1149
Silicon ppm ASTM D5185m >25 7 9 6 Sodium ppm ASTM D5185m <1 0 2 Potassium ppm ASTM D5185m >20 3 <1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 9.0 8.8 8.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 17.8 18.2	Sulfur	ppm	ASTM D5185m	2060	2932	2640	2694
Sodium ppm ASTM D5185m <1 0 2 Potassium ppm ASTM D5185m >20 3 <1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 9.0 8.8 8.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 17.8 18.2	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 <1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 9.0 8.8 8.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 17.8 18.2	Silicon	ppm	ASTM D5185m	>25	7	9	6
INFRA-RED	Sodium	ppm	ASTM D5185m		<1	0	2
Soot % % *ASTM D7844 >3 0.3 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 9.0 8.8 8.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 17.8 18.2	Potassium	ppm	ASTM D5185m	>20	3	<1	1
Nitration Abs/cm *ASTM D7624 >20 9.0 8.8 8.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 17.8 18.2	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.3 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 17.8 18.2	Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 17.8 18.2	Nitration	Abs/cm	*ASTM D7624	>20	9.0	8.8	8.8
Oxidation	Sulfation			>30	20.3	20.5	
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	17.8	18.2
	Base Number (BN)	mg KOH/g	ASTM D2896	9.6	6.3	9.50	8.53



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIFS	method	limit/base	current	history1	historv2

Visc @ 100°C	cSt	ASTM D445	15.5	13.6	13.5	13.9
GRAPHS						
Iron (ppm)				Lead (ppm))	
200 Severe				80 Severe	!	
150 - Abnormal				E 60 Abnormal		
1			-	40 7 0		
50				20		
May11/21	Sep20/21-		Nov28/23	May11/21	Sep20/21-	Nov28/23
			Nov			Nov
Aluminum (pp	m) 			Chromium	(ppm)	
40 - Severe			-	40 - Severe		
E 30 - Abnormal				20 - Abnormal		
20 - 6				10		-
0	_			0		
May11/21	Sep20/21		Nov28/23	May11/21	Sep 20/21	Nov28/23
			N			8
Copper (ppm) Severe				Silicon (ppn		
300				60 +		
<u> </u>				E 40		
100				Abnormal 20		
0				0		3
May11/2;	Sep20/21		Nov28/23	May11/2	Sep 20/21	Nov28/23
≥	69		2	≥	69	Z





Laboratory

Sample No. Lab Number **Unique Number**

: 06027071 : 10776862

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0096395

Viscosity @ 100°C

Received : 06 Dec 2023 Diagnosed : 08 Dec 2023 Diagnostician : Wes Davis

Test Package : MOB 1 (Additional Tests: TBN)

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.

B & B HARVESTING 2842 LADD RD

MODESTO, CA US 95356 Contact: Service Manager

drcalvalley@gmail.com T: (209)545-8300

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Base Number

10.0 T Base

(mg KOH/g)

Base Number 0.0