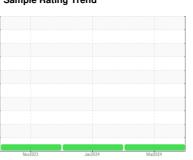


OIL ANALYSIS REPORT

Sample Rating Trend









BM-1
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

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

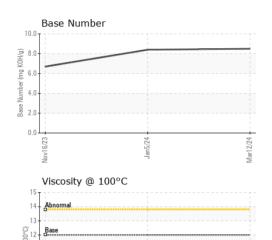
Fluid Condition

The 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 PCA0103109 PCA0110740 PCA010 Sample Date Client Info 12 Mar 2024 05 Jan 2024 16 Nov Machine Age hrs Client Info 334 222 809 Oil Age hrs Client Info 334 222 809 Oil Changed Client Info Changed Changed	N SHP 10W30 (- GAL)	No	v2023	Jan 2024 Mar 20	24	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 8691 8357 8135 Oil Age hrs Client Info 334 222 809 Oil Changed Changed Changed Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method Imitibase current history1 hist Fuel WC Method >3.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0	Sample Number		Client Info		PCA0103109	PCA0110740	PCA010309
Oil Changed	Sample Date		Client Info		12 Mar 2024	05 Jan 2024	16 Nov 2023
Contained Client Info Changed NORMAL N	Machine Age	hrs	Client Info		8691	8357	8135
NORMAL NORMAL NORMAL NORMAL NORMAL	Oil Age	hrs	Client Info		334	222	809
CONTAMINATION	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 hist WEAR METALS method limit/base current history1 hist Iron ppm ASTM D5185m >120 8 1 14 Chromium ppm ASTM D5185m >20 <1 0 <1 Nickel ppm ASTM D5185m >5 <1 0 0 Silver ppm ASTM D5185m >2 <1 0 <1 Silver ppm ASTM D5185m >2 <1 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m ≥20 <1 0 <1 Nickel ppm ASTM D5185m >5 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>120	8	1	14
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Silver	Nickel	ppm	ASTM D5185m	>5	<1	0	0
Aluminum	Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >330 1 <1 3 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	3	2	11
Tin	Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 hist Boron ppm ASTM D5185m 2 8 5 1 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 64 56 57 Manganese ppm ASTM D5185m 50 64 56 57 Manganesium ppm ASTM D5185m 950 932 891 837 Calcium ppm ASTM D5185m 950 932 891 837 Calcium ppm ASTM D5185m 995 984 911 923 Zinc ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>330</td> <th>1</th> <td><1</td> <td>3</td>	Copper	ppm	ASTM D5185m	>330	1	<1	3
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 hist Boron ppm ASTM D5185m 2 8 5 1 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 64 56 57 Manganese ppm ASTM D5185m 50 64 56 57 Magnesium ppm ASTM D5185m 950 932 891 837 Calcium ppm ASTM D5185m 950 932 891 837 Calcium ppm ASTM D5185m 995 984 911 923 Zinc ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 5 2	Tin	ppm	ASTM D5185m	>15	<1	0	<1
ADDITIVES method limit/base current history1 hist Boron ppm ASTM D5185m 2 8 5 1 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 64 56 57 Manganese ppm ASTM D5185m 0 <1	Vanadium	ppm	ASTM D5185m		0	0	<1
Boron	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 64 56 57 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 64 56 57 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 950 932 891 837 Calcium ppm ASTM D5185m 1050 1087 1005 1030 Phosphorus ppm ASTM D5185m 995 984 911 923 Zinc ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 5 2 3 Sodium ppm ASTM D5185m >20 </td <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td>2</td> <th>8</th> <td>5</td> <td>1</td>	Boron	ppm	ASTM D5185m	2	8	5	1
Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 950 932 891 837 Calcium ppm ASTM D5185m 1050 1087 1005 1030 Phosphorus ppm ASTM D5185m 1050 1087 1005 1030 Zinc ppm ASTM D5185m 995 984 911 923 Zinc ppm ASTM D5185m 1180 1177 1214 1091 Sulfur ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m 25 5 2 3 Sodium ppm ASTM D5185m 20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 950 932 891 837 Calcium ppm ASTM D5185m 1050 1087 1005 1030 Phosphorus ppm ASTM D5185m 995 984 911 923 Zinc ppm ASTM D5185m 1180 1177 1214 1091 Sulfur ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 5 2 3 Sodium ppm ASTM D5185m 20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/.1mm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7414	Molybdenum	ppm	ASTM D5185m	50	64	56	57
Calcium ppm ASTM D5185m 1050 1087 1005 1030 Phosphorus ppm ASTM D5185m 995 984 911 923 Zinc ppm ASTM D5185m 1180 1177 1214 1091 Sulfur ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 5 2 3 Sodium ppm ASTM D5185m 2 2 9 Potassium ppm ASTM D5185m >20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th><1</th> <td>0</td> <td><1</td>	Manganese	ppm	ASTM D5185m	0	<1	0	<1
Phosphorus ppm ASTM D5185m 995 984 911 923 Zinc ppm ASTM D5185m 1180 1177 1214 1091 Sulfur ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 5 2 3 Sodium ppm ASTM D5185m 2 2 9 Potassium ppm ASTM D5185m >20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base </td <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>950</td> <th>932</th> <td>891</td> <td>837</td>	Magnesium	ppm	ASTM D5185m	950	932	891	837
Zinc ppm ASTM D5185m 1180 1177 1214 1091 Sulfur ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 5 2 3 Sodium ppm ASTM D5185m 2 2 9 Potassium ppm ASTM D5185m >20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 hist Oxidation Abs/.1mm *ASTM D7414	Calcium	ppm	ASTM D5185m	1050	1087	1005	1030
Sulfur ppm ASTM D5185m 2600 3167 2869 2427 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 5 2 3 Sodium ppm ASTM D5185m 2 2 9 Potassium ppm ASTM D5185m >20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 hist Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	Phosphorus	ppm	ASTM D5185m	995	984	911	923
CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 5 2 3 Sodium ppm ASTM D5185m 2 2 9 Potassium ppm ASTM D5185m >20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 hist Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	Zinc	ppm	ASTM D5185m	1180	1177	1214	1091
Silicon ppm ASTM D5185m >25 5 2 3 Sodium ppm ASTM D5185m 2 2 9 Potassium ppm ASTM D5185m >20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 hist Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	Sulfur	ppm	ASTM D5185m	2600	3167	2869	2427
Sodium ppm ASTM D5185m 2 2 9 Potassium ppm ASTM D5185m >20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 hist Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 4 5 28 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 hist Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	Silicon	ppm	ASTM D5185m	>25	5	2	3
INFRA-RED	Sodium	ppm	ASTM D5185m		2	2	9
Soot % % *ASTM D7844 >4 0.3 0.2 0.6 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	Potassium	ppm	ASTM D5185m	>20	4	5	28
Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 8.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 history1 hist Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 hist Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	Soot %	%	*ASTM D7844	>4	0.3	0.2	0.6
Sulfation Abs/.1mm *ASTM D7415 >30 18.1 18.0 21.2 FLUID DEGRADATION method limit/base current history1 hist Oxidation Abs/.1mm *ASTM D7414 >25 13.5 13.4 17.1	Nitration	Abs/cm	*ASTM D7624	>20	6.1	6.0	8.9
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30			
	FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.5	13.4	17.1
Dase Number (DIV) highory Astronogram 5.5	Base Number (BN)	mg KOH/g	ASTM D2896		8.5	8.4	6.7



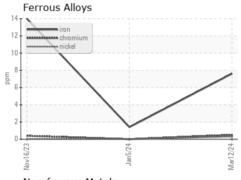
OIL ANALYSIS REPORT



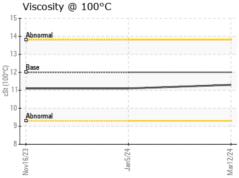
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	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

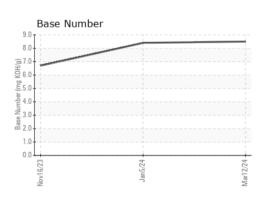
FLUID PROPE	RHES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.3	11.1	11.1

GRAPHS



Non-ferrous Metals		
8 copper lead		
6		
4		
2-	Townson of the second of the second	-
Nov16/23	Jan5/24	Mar12/24
Viscosity @ 100°C		









Certificate L2367

Laboratory Sample No.

Lab Number : 06129149 Unique Number : 10943300 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0103109 Received : 26 Mar 2024

Diagnosed

Tested : 01 Apr 2024 : 01 Apr 2024 - Wes Davis

BLUE MAX TRUCKING 1015 E. WESTINGHOUSE BLVD.

CHARLOTTE, NC US 28273

Contact: Jody Greer jgreer@bluemaxtrucking.com

T: (980)225-9968 F: (704)588-2901

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)