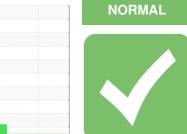


OIL ANALYSIS REPORT

Sample Rating Trend



478 Component Diesel Engine Fluid PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Machine Id

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with 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 INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0905969	WC0792649	WC0727267
Sample Date		Client Info		04 Apr 2024	18 Aug 2023	21 Mar 2023
Machine Age	mls	Client Info		139104	129740	126636
Oil Age	mls	Client Info		5000	5000	12636
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	ABNORMAL	ABNORMAL
CONTAMINATION	J	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m		21	58	48
Chromium	ppm	ASTM D5185m		<1	2	1
Nickel	ppm	ASTM D5185m		<1	1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	1	0
Aluminum	ppm	ASTM D5185m		5	5	6
Lead	ppm	ASTM D5185m	>40	<1	3	2
Copper	ppm	ASTM D5185m	>330	0	2	1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 5	history1 6	history2 9
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	5	6	9
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	5 0	6 0	9 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 55	6 0 62	9 0 62
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 55 <1	6 0 62 <1	9 0 62 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 55 <1 863	6 0 62 <1 842	9 0 62 <1 828
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 55 <1 863 1159	6 0 62 <1 842 1155	9 0 62 <1 828 1164
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	5 0 55 <1 863 1159 1030	6 0 62 <1 842 1155 972	9 0 62 <1 828 1164 977
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 55 <1 863 1159 1030 1226	6 0 62 <1 842 1155 972 1189	9 0 62 <1 828 1164 977 1191
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		5 0 55 <1 863 1159 1030 1226 3575	6 0 62 <1 842 1155 972 1189 2851	9 0 62 <1 828 1164 977 1191 2827
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	5 0 55 <1 863 1159 1030 1226 3575 current	6 0 62 <1 842 1155 972 1189 2851 history1	9 0 62 <1 828 1164 977 1191 2827 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 55 <1 863 1159 1030 1226 3575 current 4	6 0 62 <1 842 1155 972 1189 2851 history1 5	9 0 62 <1 828 1164 977 1191 2827 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 55 <1 863 1159 1030 1226 3575 current 4 3	6 0 62 <1 842 1155 972 1189 2851 history1 5 9	9 0 62 <1 828 1164 977 1191 2827 history2 4 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	5 0 55 <1 863 1159 1030 1226 3575 current 4 3 20	6 0 62 <1 842 1155 972 1189 2851 history1 5 9 9 ▲ 149	9 0 62 <1 828 1164 977 1191 2827 history2 4 6 6 126
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base	5 0 55 <1 863 1159 1030 1226 3575 current 4 3 20 current	6 0 62 <1 842 1155 972 1189 2851 history1 5 9 3 149 history1	9 0 62 <1 828 1164 977 1191 2827 history2 4 6 ▲ 126 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	5 0 55 <1 863 1159 1030 1226 3575 <i>current</i> 4 3 20 <i>current</i> 1	6 0 62 <1 842 1155 972 1189 2851 history1 5 9 2851 149 ▲ 149 history1 1.9	9 0 62 <1 828 1164 977 1191 2827 history2 4 6 126 126 history2 1.4
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 ASTM D5185m	limit/base >25 >20 limit/base >3 >20	5 0 55 <1 863 1159 1030 1226 3575 <i>current</i> 4 3 20 <i>current</i> 1 6.6	6 0 62 <1 842 1155 972 1189 2851 history1 5 9 2851 149 149 history1 1.9 9.1	9 0 62 <1 828 1164 977 1191 2827 history2 4 6 6 126 126 history2 1.4 8.2
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 ASTM D5185m	Imit/base >25 >20 Imit/base >3 >20 >30	5 0 55 <1 863 1159 1030 1226 3575 current 4 3 20 current 1 6.6 19.1	6 0 62 <1 842 1155 972 1189 2851 bistory1 5 9 3 149 history1 1.9 9.1 22.4	9 0 62 <1 828 1164 977 1191 2827 history2 4 6 ▲ 126 history2 1.4 8.2 21.1
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 ASTM D7844 *ASTM D7624	limit/base >25 >20 limit/base >3 >20 >30 >30	5 0 55 <1 863 1159 1030 1226 3575 current 4 3 20 current 1 6.6 19.1	6 0 62 <1 842 1155 972 1189 2851 bistory1 5 9 ▲ 149 history1 1.9 9.1 22.4 bistory1	9 0 62 <1 828 1164 977 1191 2827 history2 4 6 126 126 history2 1.4 8.2 21.1 history2



3

30

25

Abs/cm

1

10

10.0

6.

19 18

13

12

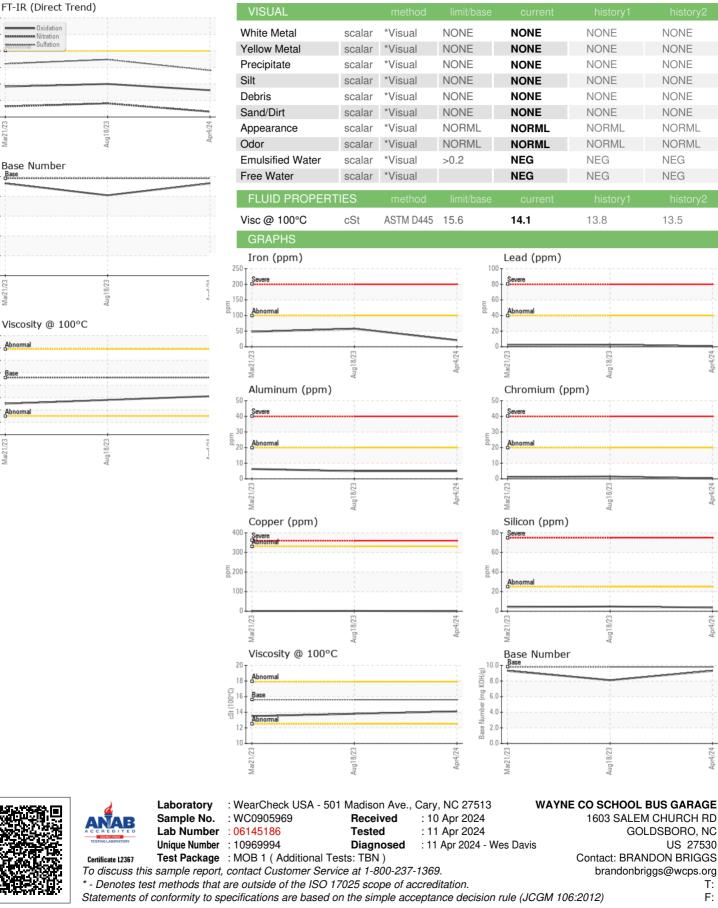
Mar21/23

(mg KOH/g)

Base

Base

OIL ANALYSIS REPORT



Report Id: WAYGOL [WUSCAR] 06145186 (Generated: 04/12/2024 14:10:44) Rev: 1

Contact/Location: BRANDON BRIGGS - WAYGOL