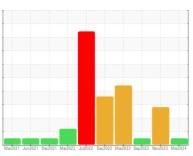


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **7818M** Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- 0

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

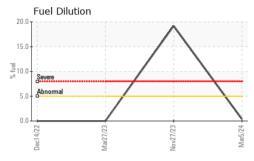
Fluid Condition

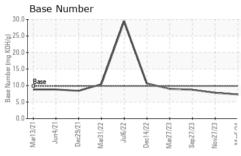
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

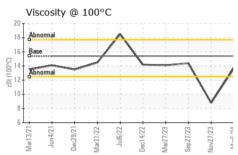
GAL)		Mar2021 Jun2	021 Dec2021 Mar2022 Jul2	022 Dec2022 Mar2023 Sep2023 Nov2	023 Mar2024	
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0107804	GFL0096564	GFL0096535
Sample Date		Client Info		05 Mar 2024	27 Nov 2023	27 Sep 2023
Machine Age	hrs	Client Info		15733	15089	15127
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	SEVERE	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	12	8	29
Chromium	ppm	ASTM D5185m	>20	0	<1	1
Nickel	ppm	ASTM D5185m	>4	4	<1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	2	2
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	<1	1	1
Tin	ppm	ASTM D5185m	>15	2	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base			history2
7.00111720		method	IIIIII/base	ourrent	Thistory	motory
Boron	ppm	ASTM D5185m	0	<1	<1	3
Boron Barium	ppm		0	<1 0	<1 2	3
Boron Barium Molybdenum	• • • • • • • • • • • • • • • • • • • •	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 56	<1 2 46	3 0 62
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 56 0	<1 2 46 0	3 0 62 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 56 0 1036	<1 2 46 0 683	3 0 62 <1 1013
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 0 56 0 1036 1183	<1 2 46 0 683 830	3 0 62 <1 1013 1142
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 ASTM D5185m	0 0 60 0 1010 1070 1150	<1 0 56 0 1036 1183 1001	<1 2 46 0 683 830 755	3 0 62 <1 1013 1142 1015
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 ASTM D5185m	0 0 60 0 1010 1070 1150	<1 0 56 0 1036 1183 1001 1296	<1 2 46 0 683 830 755 948	3 0 62 <1 1013 1142 1015 1300
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	0 0 60 0 1010 1070 1150 1270 2060	<1 0 56 0 1036 1183 1001 1296 2903	<1 2 46 0 683 830 755 948 3196	3 0 62 <1 1013 1142 1015 1300 3003
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 56 0 1036 1183 1001 1296	<1 2 46 0 683 830 755 948	3 0 62 <1 1013 1142 1015 1300
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 56 0 1036 1183 1001 1296 2903 current	<1 2 46 0 683 830 755 948 3196 history1	3 0 62 <1 1013 1142 1015 1300 3003 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	0 0 60 0 1010 1070 1150 1270 2060 limit/base	<1 0 56 0 1036 1183 1001 1296 2903 current 2	<1 2 46 0 683 830 755 948 3196 history1 4 3	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 56 0 1036 1183 1001 1296 2903 current 2 2	<1 2 46 0 683 830 755 948 3196 history1 4 3 2	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 56 0 1036 1183 1001 1296 2903 current 2	<1 2 46 0 683 830 755 948 3196 history1 4 3	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 56 0 1036 1183 1001 1296 2903 current 2 2	<1 2 46 0 683 830 755 948 3196 history1 4 3 2	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >5	<1 0 56 0 1036 1183 1001 1296 2903 current 2 2 0 0.4	<1 2 46 0 683 830 755 948 3196 history1 4 3 2	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74 2 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >5	<1 0 56 0 1036 1183 1001 1296 2903 current 2 2 0 0.4	<1 2 46 0 683 830 755 948 3196 history1 4 3 2 ▲ 19.2 history1	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74 2 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >5	<1 0 56 0 1036 1183 1001 1296 2903 current 2 2 0 0.4 current 0.4	<1 2 46 0 683 830 755 948 3196 history1 4 3 2 ▲ 19.2 history1 0.2	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74 2 <1.0 history2 0.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7624	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >5	<1 0 56 0 1036 1183 1001 1296 2903 current 2 2 0 0.4 current 0.4 8.4	<1 2 46 0 683 830 755 948 3196 history1 4 3 2 ▲ 19.2 history1 0.2 7.3	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74 2 <1.0 history2 0.9 7.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7624	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >5 limit/base >3 >20 >30	<1 0 56 0 1036 1183 1001 1296 2903 current 2 2 0 0.4 current 0.4 8.4 19.2	<1 2 46 0 683 830 755 948 3196 history1 4 3 2 ▲ 19.2 history1 0.2 7.3 17.8	3 0 62 <1 1013 1142 1015 1300 3003 history2 4 74 2 <1.0 history2 0.9 7.5 19.9



OIL ANALYSIS REPORT



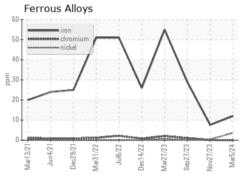


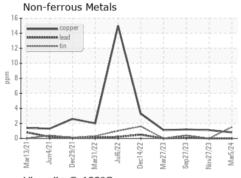


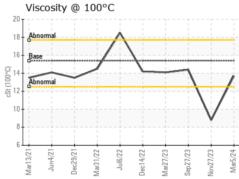
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

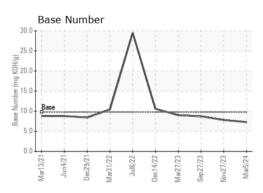
FLUID PROPE	:RHES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	8.8	14.4

GRAPHS













Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0107804 Lab Number : 06110804

Received Unique Number : 10914301

Tested Diagnosed : 06 Mar 2024

: 08 Mar 2024

: 08 Mar 2024 - Wes Davis

Test Package: FLEET (Additional Tests: PercentFuel) 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)

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