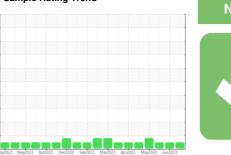


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id
812003
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (--- QTS)

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

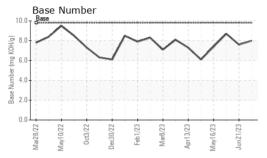
Fluid Condition

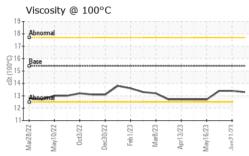
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0069180	GFL0068738	GFL0068761
Sample Date		Client Info		11 Jul 2023	21 Jun 2023	03 Jun 2023
Machine Age	hrs	Client Info		4935	4790	4630
Oil Age	hrs	Client Info		428	283	123
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	8	6	3
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	4	3	2
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	0	<1
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	2	1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base		history1	history2
	ppm			current		
Boron		ASTM D5185m	0	current 4	5	8
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	current 4 2	5 0	8
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 4 2 68	5 0 68	8 0 67
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 4 2 68 <1	5 0 68 <1	8 0 67 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 4 2 68 <1 899	5 0 68 <1 884	8 0 67 <1 961
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 4 2 68 <1 899 1141	5 0 68 <1 884 1132	8 0 67 <1 961 1124
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	0 0 60 0 1010 1070 1150	current 4 2 68 <1 899 1141 964	5 0 68 <1 884 1132 985	8 0 67 <1 961 1124 1019
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	0 0 60 0 1010 1070 1150 1270 2060	current 4 2 68 <1 899 1141 964 1209 2895 current	5 0 68 <1 884 1132 985 1169 2885 history1	8 0 67 <1 961 1124 1019 1194 3492 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 4 2 68 <1 899 1141 964 1209 2895 current 4	5 0 68 <1 884 1132 985 1169 2885 history1	8 0 67 <1 961 1124 1019 1194 3492 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 4 2 68 <1 899 1141 964 1209 2895 current 4	5 0 68 <1 884 1132 985 1169 2885 history1 4	8 0 67 <1 961 1124 1019 1194 3492 history2 4 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 4 2 68 <1 899 1141 964 1209 2895 current 4	5 0 68 <1 884 1132 985 1169 2885 history1	8 0 67 <1 961 1124 1019 1194 3492 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 4 2 68 <1 899 1141 964 1209 2895 current 4	5 0 68 <1 884 1132 985 1169 2885 history1 4	8 0 67 <1 961 1124 1019 1194 3492 history2 4 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current 4 2 68 <1 899 1141 964 1209 2895 current 4 9	5 0 68 <1 884 1132 985 1169 2885 history1 4 0	8 0 67 <1 961 1124 1019 1194 3492 history2 4 3
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	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 4 2 68 <1 899 1141 964 1209 2895 current 4 9 2 current	5 0 68 <1 884 1132 985 1169 2885 history1 4 0 1	8 0 67 <1 961 1124 1019 1194 3492 history2 4 3 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 4 2 68 <1 899 1141 964 1209 2895 current 4 9 2 current	5 0 68 <1 884 1132 985 1169 2885 history1 4 0 1 history1 0.4	8 0 67 <1 961 1124 1019 1194 3492 history2 4 3 0 history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 4 2 68 <1 899 1141 964 1209 2895 current 4 9 2 current 0.5 8.0	5 0 68 <1 884 1132 985 1169 2885 history1 4 0 1 history1 0.4 6.9	8 0 67 <1 961 1124 1019 1194 3492 history2 4 3 0 history2 0.2 6.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m Method *ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	current 4 2 68 <1 899 1141 964 1209 2895 current 4 9 2 current 0.5 8.0 20.2	5 0 68 <1 884 1132 985 1169 2885 history1 4 0 1 history1 0.4 6.9 19.6	8 0 67 <1 961 1124 1019 1194 3492 history2 4 3 0 history2 0.2 6.4 18.1



OIL ANALYSIS REPORT

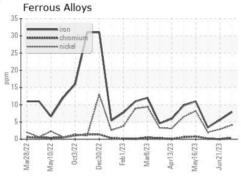


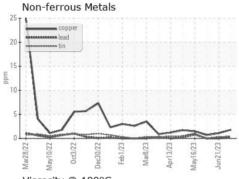


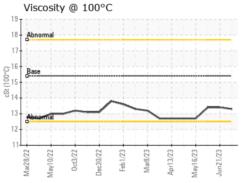
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

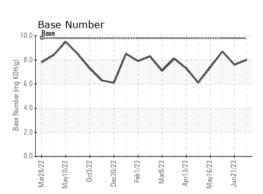
FLUID PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	13.4	13.4

GRAPHS











Certificate L2367

Laboratory Sample No.

Lab Number Unique Number : 10559689 Test Package : FLEET

: GFL0069180 : 05898333

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 14 Jul 2023 Diagnosed : 17 Jul 2023

Diagnostician : Wes Davis

GFL Environmental - 073 - Warner Robbins - Transwaste

155 Story Road Warner Robins, GA US 31093

Contact: JOSH MALONEY

jmaloney@gflenv.com T:

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)

Report Id: GFL073 [WUSCAR] 05898333 (Generated: 07/17/2023 10:41:58) Rev: 1

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