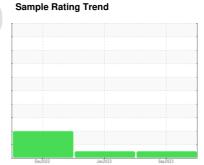


OIL ANALYSIS REPORT



Machine Id 913069 Component **Diesel Engine**

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





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

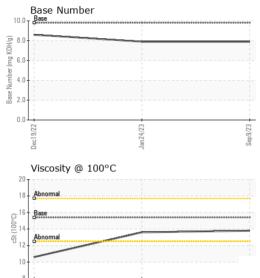
Fluid Condition

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

		060	2022	Jan 2023 Sep 20		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0091462	GFL0071207	GFL0063295
Sample Date		Client Info		09 Sep 2023	24 Jan 2023	19 Dec 2022
Machine Age	hrs	Client Info		2891	917	623
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	0.4
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	14	14	46
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	5	3	10
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	<1	1	<1
Aluminum	ppm	ASTM D5185m	>20	0	0	4
Lead	ppm	ASTM D5185m	>40	<1	2	3
Copper	ppm	ASTM D5185m	>330	1	48	299
Tin	ppm	ASTM D5185m	>15	1	2	4
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 3	history1 18	history2 225
	ppm					
Boron		ASTM D5185m	0	3	18	225
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	3 0	18	225 0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 60	18 0 69	225 0 112
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 60 <1	18 0 69 <1	225 0 112 3
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	3 0 60 <1 960	18 0 69 <1 994	225 0 112 3 762
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	3 0 60 <1 960 1098	18 0 69 <1 994 1156	225 0 112 3 762 1497
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	3 0 60 <1 960 1098 1051	18 0 69 <1 994 1156 1077	225 0 112 3 762 1497 721
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	3 0 60 <1 960 1098 1051 1281	18 0 69 <1 994 1156 1077 1312	225 0 112 3 762 1497 721 913
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	3 0 60 <1 960 1098 1051 1281 3548	18 0 69 <1 994 1156 1077 1312 3596	225 0 112 3 762 1497 721 913 2631
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	3 0 60 <1 960 1098 1051 1281 3548	18 0 69 <1 994 1156 1077 1312 3596 history1	225 0 112 3 762 1497 721 913 2631 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	3 0 60 <1 960 1098 1051 1281 3548 current	18 0 69 <1 994 1156 1077 1312 3596 history1	225 0 112 3 762 1497 721 913 2631 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	3 0 60 <1 960 1098 1051 1281 3548 current 4	18 0 69 <1 994 1156 1077 1312 3596 history1 10	225 0 112 3 762 1497 721 913 2631 history2 65 2
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	3 0 60 <1 960 1098 1051 1281 3548 current 4 3	18 0 69 <1 994 1156 1077 1312 3596 history1 10 1	225 0 112 3 762 1497 721 913 2631 history2 65 2 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	3 0 60 <1 960 1098 1051 1281 3548 current 4 3 1	18 0 69 <1 994 1156 1077 1312 3596 history1 10 1 2 history1	225 0 112 3 762 1497 721 913 2631 history2 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 1150 1270 2060 limit/base >25 >20 limit/base	3 0 60 <1 960 1098 1051 1281 3548 current 4 3 1	18 0 69 <1 994 1156 1077 1312 3596 history1 10 1 2 history1 0.2	225 0 112 3 762 1497 721 913 2631 history2 history2 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	3 0 60 <1 960 1098 1051 1281 3548 current 4 3 1 current 0.6 7.7	18 0 69 <1 994 1156 1077 1312 3596 history1 10 1 2 history1 0.2 7.5	225 0 112 3 762 1497 721 913 2631 history2 10.4 10.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm 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	3 0 60 <1 960 1098 1051 1281 3548 current 4 3 1 current 0.6 7.7 19.0	18 0 69 <1 994 1156 1077 1312 3596 history1 10 1 2 history1 0.2 7.5 19.6	225 0 112 3 762 1497 721 913 2631 history2 ▲ 65 2 3 history2 0.4 10.5 25.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m Method ASTM D5185m ASTM D78185m Method	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 limit/base	3 0 60 <1 960 1098 1051 1281 3548 current 4 3 1 current 0.6 7.7 19.0	18 0 69 <1 994 1156 1077 1312 3596 history1 10 1 2 history1 0.2 7.5 19.6 history1	225 0 112 3 762 1497 721 913 2631 history2 10.5 25.9 history2



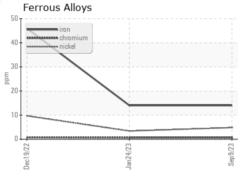
OIL ANALYSIS REPORT



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
	DTIES	mothod	limit/base	current	history1	history?

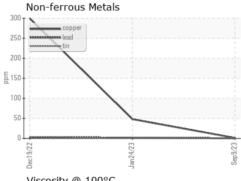
13.8

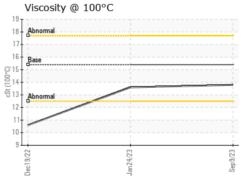
Visc @	100°C
GRA	PHS

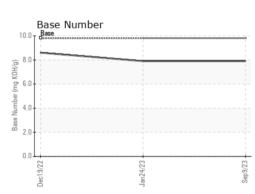


cSt

ASTM D445 15.4











Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10646636 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0091462 : 05950677

Received : 13 Sep 2023 Diagnosed : 15 Sep 2023 Diagnostician : Wes Davis

GFL Environmental - 465 - Pontiac

888 Baldwin Pontiac, MI US 48340

<u></u> 10.6

13.6

Contact: Ricky Matthews rickymathews@gflenv.com T: (586)825-9514

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)