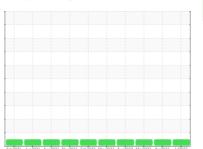


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **729017-1264**

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- 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

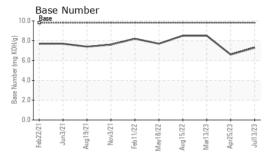
Fluid Condition

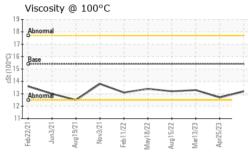
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

(022 May2022 Aug2022 Mar2023 Apr2		
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0083969	GFL0078716	GFL0071439
Sample Date		Client Info		13 Jul 2023	25 Apr 2023	13 Mar 2023
Machine Age	hrs	Client Info		11255	10648	10364
Oil Age	hrs	Client Info		607	600	1469
Oil Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>80	26	29	12
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	4	5	2
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	2	1	<1
Tin	ppm	ASTM D5185m	>5	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 2	history1 5	history2 7
	ppm		0			
Boron		ASTM D5185m	0	2	5	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	2 0	5	7
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 59	5 0 62	7 0 57
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 59 <1	5 0 62 <1	7 0 57
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	2 0 59 <1 892	5 0 62 <1 968	7 0 57 1 861
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	2 0 59 <1 892 1083	5 0 62 <1 968 1119	7 0 57 1 861 1051
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	0 0 60 0 1010 1070 1150	2 0 59 <1 892 1083 915	5 0 62 <1 968 1119 946	7 0 57 1 861 1051 906
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	0 0 60 0 1010 1070 1150 1270	2 0 59 <1 892 1083 915 1205	5 0 62 <1 968 1119 946 1291	7 0 57 1 861 1051 906 1161
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	2 0 59 <1 892 1083 915 1205 3256	5 0 62 <1 968 1119 946 1291 3072	7 0 57 1 861 1051 906 1161 3035
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	2 0 59 <1 892 1083 915 1205 3256	5 0 62 <1 968 1119 946 1291 3072 history1	7 0 57 1 861 1051 906 1161 3035 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	2 0 59 <1 892 1083 915 1205 3256 current	5 0 62 <1 968 1119 946 1291 3072 history1	7 0 57 1 861 1051 906 1161 3035 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	2 0 59 <1 892 1083 915 1205 3256 current 4	5 0 62 <1 968 1119 946 1291 3072 history1 4	7 0 57 1 861 1051 906 1161 3035 history2 5
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 >20	2 0 59 <1 892 1083 915 1205 3256 current 4 6 3	5 0 62 <1 968 1119 946 1291 3072 history1 4 6	7 0 57 1 861 1051 906 1161 3035 history2 5 5 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >20 	2 0 59 <1 892 1083 915 1205 3256 current 4 6 3	5 0 62 <1 968 1119 946 1291 3072 history1 4 6 5	7 0 57 1 861 1051 906 1161 3035 history2 5 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 0 0 1010 1070 1150 1270 2060 limit/base >20 	2 0 59 <1 892 1083 915 1205 3256 current 4 6 3	5 0 62 <1 968 1119 946 1291 3072 history1 4 6 5 history1 0.5	7 0 57 1 861 1051 906 1161 3035 history2 5 5 <1 history2 0.4
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1150 1270 2060 limit/base >20 	2 0 59 <1 892 1083 915 1205 3256 current 4 6 3 current 0.6 11.6	5 0 62 <1 968 1119 946 1291 3072 history1 4 6 5 history1 0.5	7 0 57 1 861 1051 906 1161 3035 history2 5 5 <1 history2 0.4 8.7
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 D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >20 >20 limit/base >3 >20 >3	2 0 59 <1 892 1083 915 1205 3256 current 4 6 3 current 0.6 11.6 22.2	5 0 62 <1 968 1119 946 1291 3072 history1 4 6 5 history1 0.5 11.0 20.9	7 0 57 1 861 1051 906 1161 3035 history2 5 <1 history2 0.4 8.7 19.2
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 D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76185 method	0 0 0 0 1010 1070 1150 1270 2060 limit/base >20 >20 limit/base >3 >20 >30 limit/base	2 0 59 <1 892 1083 915 1205 3256 current 4 6 3 current 0.6 11.6 22.2	5 0 62 <1 968 1119 946 1291 3072 history1 4 6 5 history1 0.5 11.0 20.9 history1	7 0 57 1 861 1051 906 1161 3035 history2 5 5 <1 history2 0.4 8.7 19.2 history2



OIL ANALYSIS REPORT

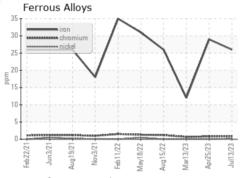


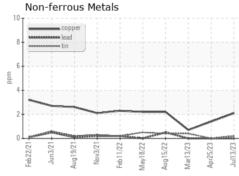


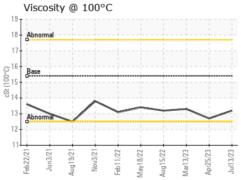
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance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

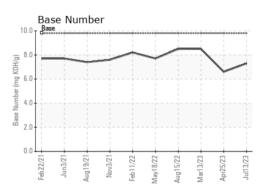
FLUID PROPE	RHES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	12.7	13.3

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Test Package : FLEET

Unique Number : 10563174

: GFL0083969 : 05901818

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 18 Jul 2023 Diagnosed : 19 Jul 2023 Diagnostician : Wes Davis

GFL Environmental - 622 - Traverse City Hauling

160 Hughes Dr Traverse City, MI US 49686

Contact: GARY BREWER

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)

T:

F: