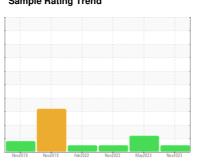


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **229036-632120**

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- 0

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

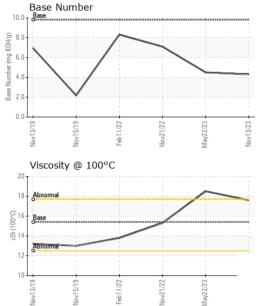
Fluid Condition

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

GAL)		Nov2019	Nov2019 Feb2022	Nov2022 May2023	Nov2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0100529	GFL0083463	GFL0054346
Sample Date		Client Info		13 Nov 2023	22 May 2023	21 Nov 2022
Machine Age	hrs	Client Info		7541	314105	122740
Oil Age	hrs	Client Info		7541	314105	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	72	<u>^</u> 222	52
Chromium	ppm	ASTM D5185m	>20	2	6	1
Nickel	ppm	ASTM D5185m	>4	0	2	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	8	3
Lead	ppm	ASTM D5185m	>40	<1	1	<1
Copper	ppm	ASTM D5185m	>330	2	4	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Antimony	ppm	ASTM D5185m				
\		40TH D = 10 =				
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m ASTM D5185m		<1 0	<1 0	0
			limit/base			
Cadmium		ASTM D5185m	limit/base	0	0	0
Cadmium ADDITIVES	ppm	ASTM D5185m method		o current	0 history1	0 history2
Cadmium ADDITIVES Boron	ppm	ASTM D5185m method ASTM D5185m	0	current	0 history1	0 history2 <1
Cadmium ADDITIVES Boron Barium	ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	0	current 8	0 history1 3 0	0 history2 <1 0
Cadmium ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 current 8 0 85	0 history1 3 0 87	0 history2 <1 0 74
Cadmium ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 current 8 0 85 <1	0 history1 3 0 87 3	0 history2 <1 0 74 <1
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 current 8 0 85 <1 1307	0 history1 3 0 87 3 1381	0 history2 <1 0 74 <1 1193
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070	0 current 8 0 85 <1 1307 1915	0 history1 3 0 87 3 1381 1580	0 history2 <1 0 74 <1 1193 1425
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150	0 current 8 0 85 <1 1307 1915 1431	0 history1 3 0 87 3 1381 1580 1437	0 history2 <1 0 74 <1 1193 1425 1176
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm	ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150	0 current 8 0 85 <1 1307 1915 1431 1743	0 history1 3 0 87 3 1381 1580 1437 1810	0 history2 <1 0 74 <1 1193 1425 1176 1557
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm	METHOD ASTM D5185m METHOD ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	0 current 8 0 85 <1 1307 1915 1431 1743 3322	0 history1 3 0 87 3 1381 1580 1437 1810 3799	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm	ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	0 current 8 0 85 <1 1307 1915 1431 1743 3322 current	0 history1 3 0 87 3 1381 1580 1437 1810 3799 history1	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	0 current 8 0 85 <1 1307 1915 1431 1743 3322 current 11	0 history1 3 0 87 3 1381 1580 1437 1810 3799 history1 20	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464 history2 7
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	0 current 8 0 85 <1 1307 1915 1431 1743 3322 current 11 4	0 history1 3 0 87 3 1381 1580 1437 1810 3799 history1 20 4	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464 history2 7
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m method ASTM D5185m METHOD ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 current 8 0 85 <1 1307 1915 1431 1743 3322 current 11 4 0	0 history1 3 0 87 3 1381 1580 1437 1810 3799 history1 20 4 2	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464 history2 7 3 0
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m method ASTM D5185m Method	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 current 8 0 85 <1 1307 1915 1431 1743 3322 current 11 4 0 current	0 history1 3 0 87 3 1381 1580 1437 1810 3799 history1 20 4 2	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464 history2 7 3 0 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m method ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base	0 current 8 0 85 <1 1307 1915 1431 1743 3322 current 11 4 0 current 1.1	0 history1 3 0 87 3 1381 1580 1437 1810 3799 history1 20 4 2 history1 1.8	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464 history2 7 3 0 history2 0.8
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m method ASTM D5185m Method ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base	0 current 8 0 85 <1 1307 1915 1431 1743 3322 current 11 4 0 current 1.1 17.8 34.0	0 history1 3 0 87 3 1381 1580 1437 1810 3799 history1 20 4 2 history1 1.8 28.2	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464 history2 7 3 0 history2 0.8 16.2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m method ASTM D5185m Method ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	0 current 8 0 85 <1 1307 1915 1431 1743 3322 current 11 4 0 current 1.1 17.8 34.0	0 history1 3 0 87 3 1381 1580 1437 1810 3799 history1 20 4 2 history1 1.8 28.2 47.2	0 history2 <1 0 74 <1 1193 1425 1176 1557 3464 history2 7 3 0 history2 0.8 16.2 31.0



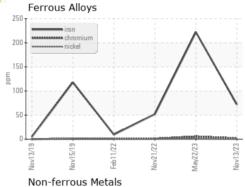
OIL ANALYSIS REPORT

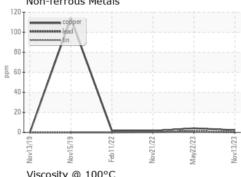


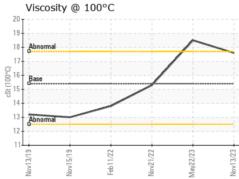
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

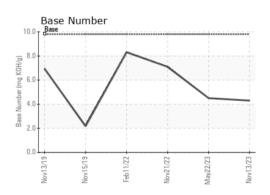
FLUID PROP	ERIIES	method			HISTORY	nistoryz
Visc @ 100°C	cSt	ASTM D445	15.4	17.6	▲ 18.5	15.3

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10751071

: GFL0100529 : 06011927

Test Package : FLEET

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 20 Nov 2023 Diagnosed : 21 Nov 2023

Diagnostician : Sean Felton

GFL Environmental - 865 - East Mount Hauling 7213 East Mount Houston Road

Houston, TX US 77050

Contact: Saul Castillo

saul.castillo@gflenv.com T:

* - 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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