



WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL

Machine Id
827034-755
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (22 QTS)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0103060	GFL0110281	GFL0102764
Sample Date		Client Info		23 May 2024	29 Feb 2024	15 Dec 2023
Machine Age	hrs	Client Info		16803	16187	15714
Oil Age	hrs	Client Info		600	582	602
Filter Age	hrs	Client Info		600	582	602
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				MARGINAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	38	32	51
Chromium	ppm	ASTM D5185m	>5	1	2	2
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>30	2	2	3
Lead	ppm	ASTM D5185m	>30	2	<1	2
Copper	ppm	ASTM D5185m	>150	<1	1	2
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

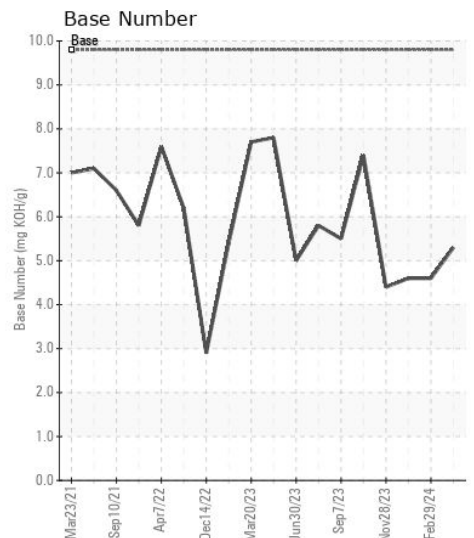
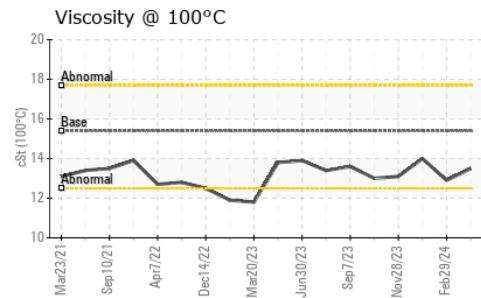
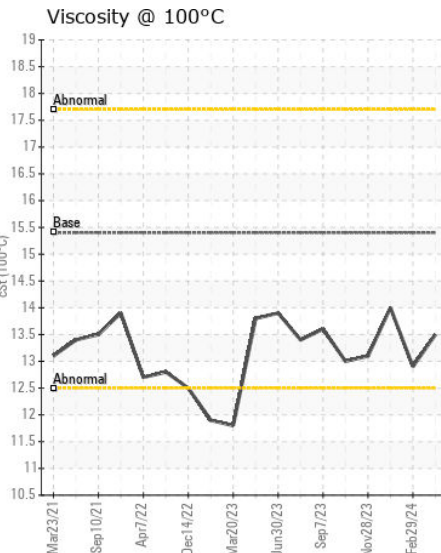
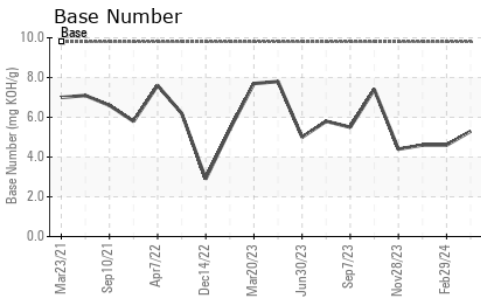
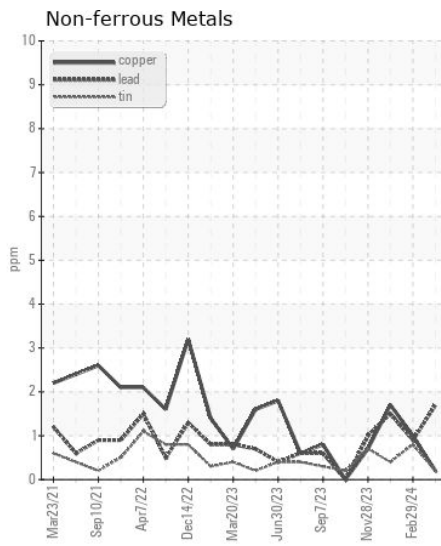
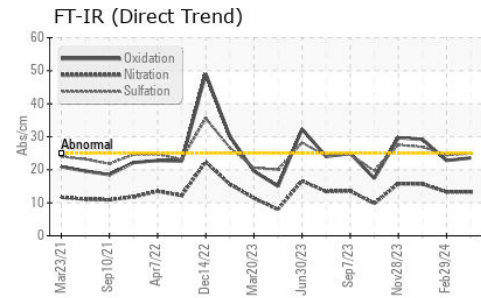
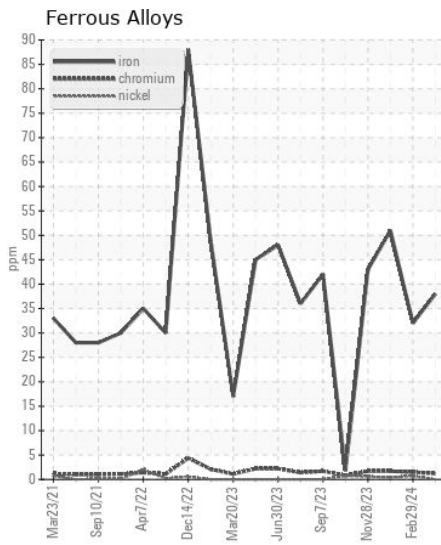
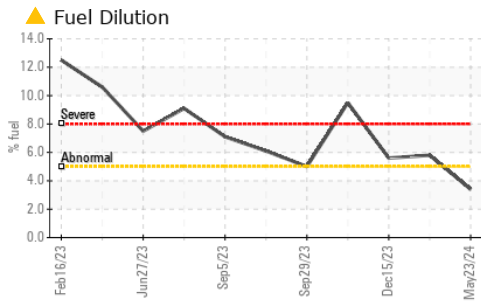
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>20	5	4	6
Potassium	ppm	ASTM D5185m	>20	4	2	4
Fuel	%	ASTM D3524	>5	▲ 3.4	▲ 5.8	▲ 5.6
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	0.6	0.9
Nitration	Abs/cm	*ASTM D7624	>20	13.3	13.3	15.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.9	24.4	26.9
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

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.

Sodium	ppm	ASTM D5185m		19	6	4
Boron	ppm	ASTM D5185m	0	3	2	4
Barium	ppm	ASTM D5185m	0	0	0	9
Molybdenum	ppm	ASTM D5185m	60	65	57	61
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	1030	849	869
Calcium	ppm	ASTM D5185m	1070	1258	972	1045
Phosphorus	ppm	ASTM D5185m	1150	1132	952	972
Zinc	ppm	ASTM D5185m	1270	1437	1143	1154
Sulfur	ppm	ASTM D5185m	2060	3604	2852	2729
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.6	22.8	29.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.3	4.6	4.6
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	12.9	14.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103060 **Received** : 28 May 2024
Lab Number : 06193257 **Tested** : 30 May 2024
Unique Number : 11050009 **Diagnosed** : 30 May 2024 - Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

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)

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