



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
701009
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0069541	GFL0056913	GFL0043517
Sample Date		Client Info		31 May 2023	05 Sep 2022	09 Jun 2022
Machine Age	hrs	Client Info		9519	9473	8902
Oil Age	hrs	Client Info		600	600	600
Filter Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>80	55	18	21
Chromium	ppm	ASTM D5185(m)	>5	2	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)	>3	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>30	3	4	4
Lead	ppm	ASTM D5185(m)	>30	2	1	<1
Copper	ppm	ASTM D5185(m)	>150	65	21	1
Tin	ppm	ASTM D5185(m)	>5	1	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

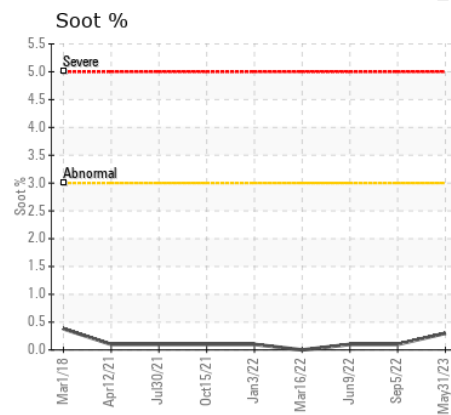
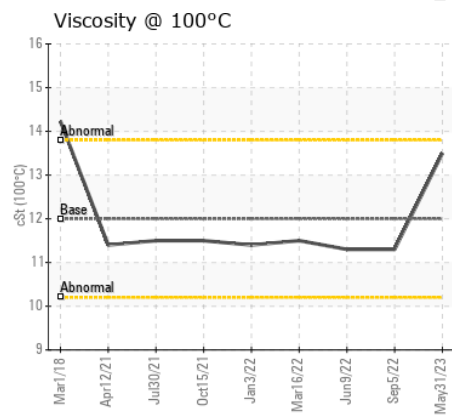
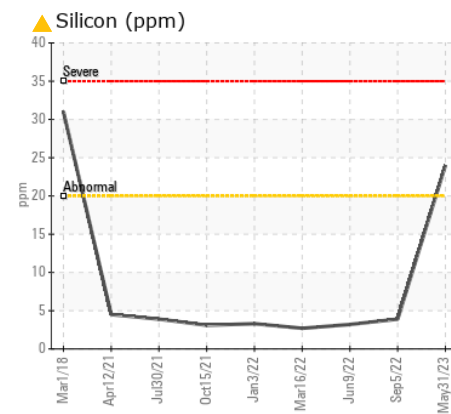
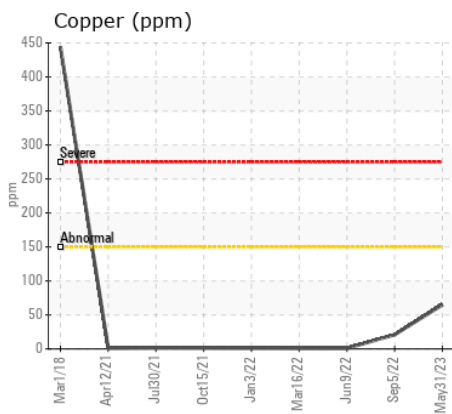
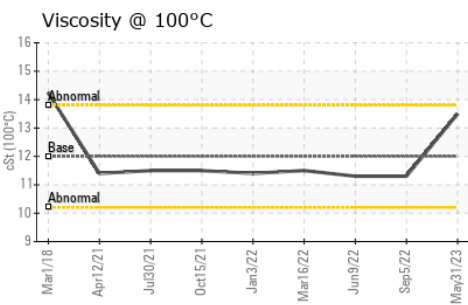
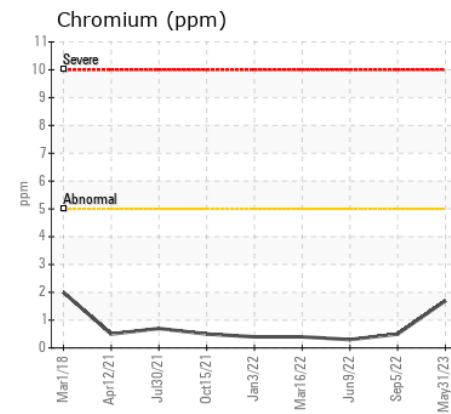
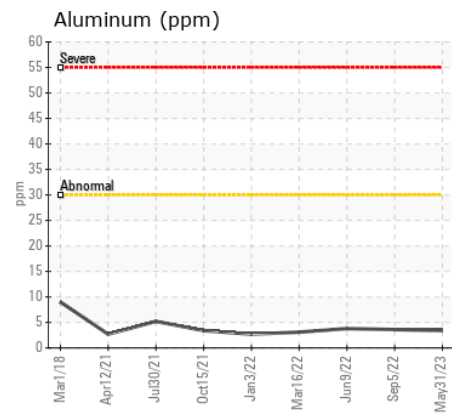
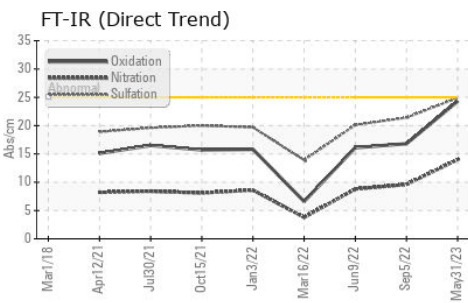
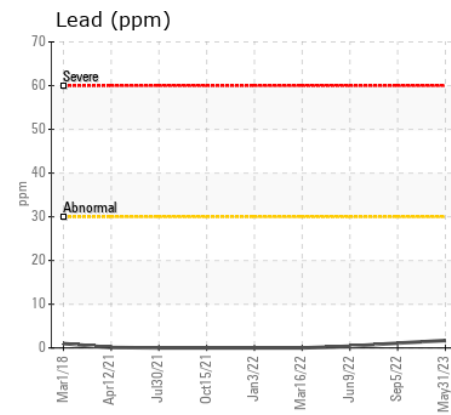
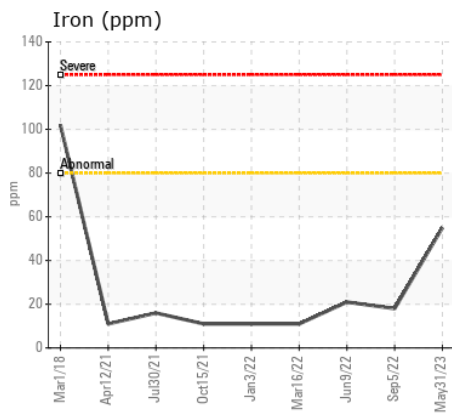
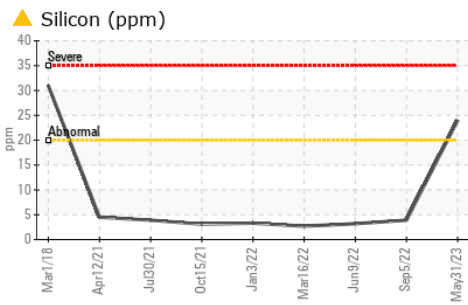
There is a moderate concentration of dirt present in the oil.

Silicon	ppm	ASTM D5185(m)	>20	▲ 24	4	3
Potassium	ppm	ASTM D5185(m)	>20	<1	▲ 98	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	▲ 0.03	NEG
Soot %	%	ASTM D7844*	>3	0.3	0.1	0.1
Nitration	Abs/cm	ASTM D7624*	>20	14.0	9.6	8.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.9	21.4	20.1
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		6	● 255	6
Boron	ppm	ASTM D5185(m)	2	22	4	<1
Barium	ppm	ASTM D5185(m)	0	5	0	0
Molybdenum	ppm	ASTM D5185(m)	50	52	61	57
Manganese	ppm	ASTM D5185(m)	0	10	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	802	962	942
Calcium	ppm	ASTM D5185(m)	1050	1230	1064	1051
Phosphorus	ppm	ASTM D5185(m)	995	692	1057	983
Zinc	ppm	ASTM D5185(m)	1180	845	1214	1196
Sulfur	ppm	ASTM D5185(m)	2600	1859	2489	2555
Oxidation	Abs/.1mm	ASTM D7414*	>25	24.3	16.8	16.1
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	13.5	11.3	11.3



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0069541
Lab Number : 02577129
Unique Number : 5630189
Test Package : MOB 1
Received : 21 Aug 2023
Tested : 21 Aug 2023
Diagnosed : 22 Aug 2023 - Kevin Marson

GFL Environmental - 565 - Winnipeg
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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.