



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
9173
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- LTR)

RECOMMENDATION

The oil 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		GFL0088966	GFL0049981	GFL0037543
Sample Date		Client Info		01 Sep 2023	20 Jul 2022	25 Nov 2021
Machine Age	hrs	Client Info		16555	14717	13216
Oil Age	hrs	Client Info		1838	1501	0
Filter Age	hrs	Client Info		1838	1501	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	SEVERE	NORMAL

WEAR

Chromium ppm levels are abnormal. Iron ppm levels are marginal. Ring wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

PQ		ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m)	>50	▲ 50	43	40
Chromium	ppm	ASTM D5185(m)	>4	▲ 6	▲ 10	7
Nickel	ppm	ASTM D5185(m)	>2	1	1	1
Titanium	ppm	ASTM D5185(m)		<1	<1	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>9	4	6	12
Lead	ppm	ASTM D5185(m)	>30	5	4	9
Copper	ppm	ASTM D5185(m)	>35	12	14	17
Tin	ppm	ASTM D5185(m)	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

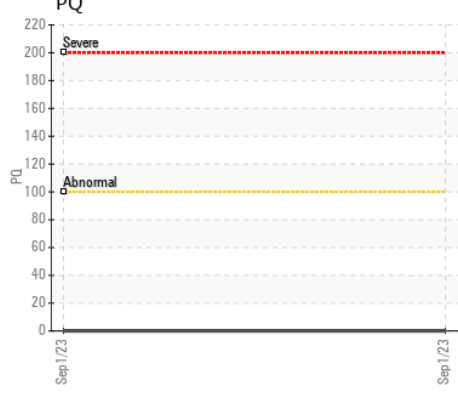
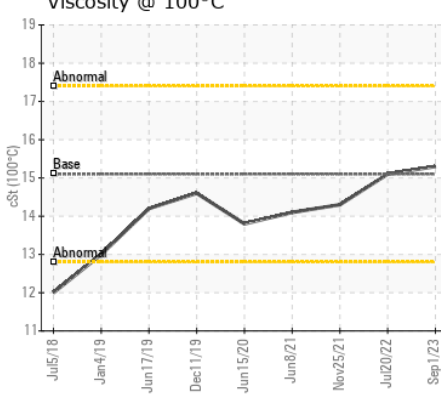
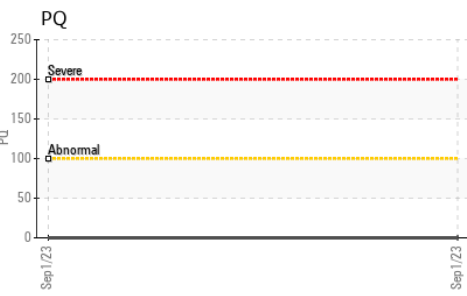
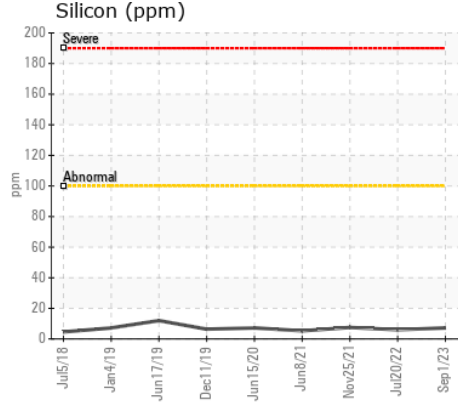
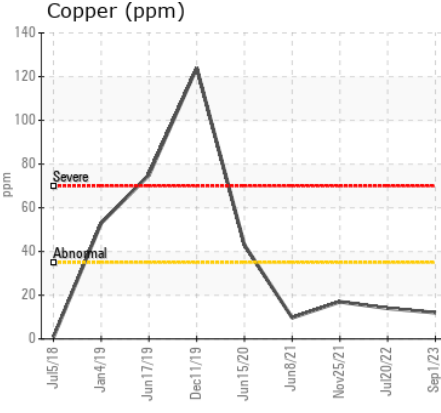
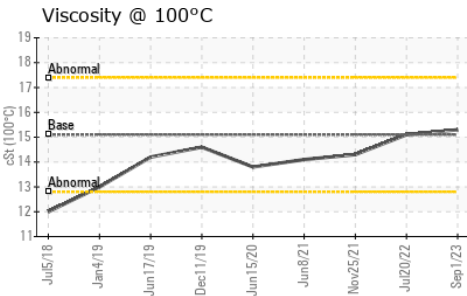
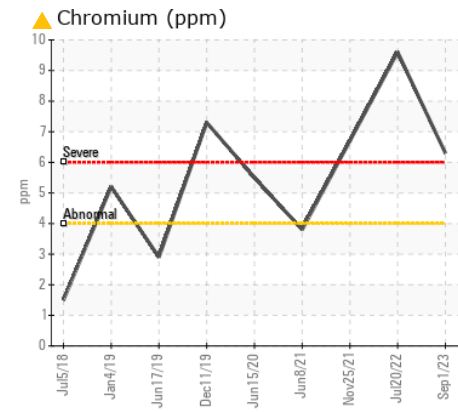
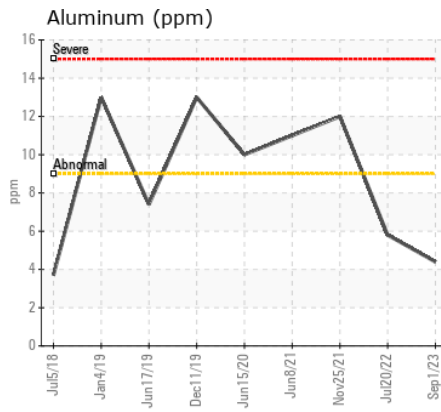
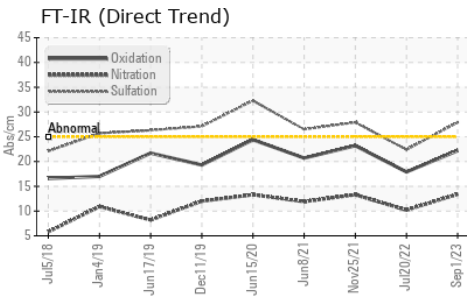
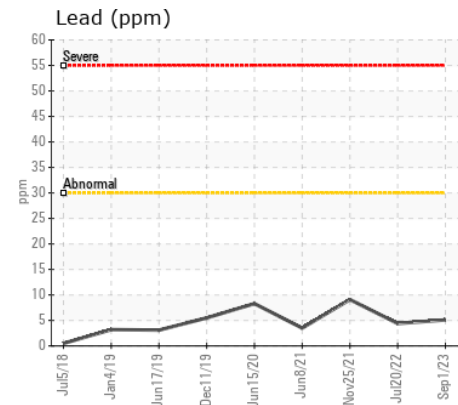
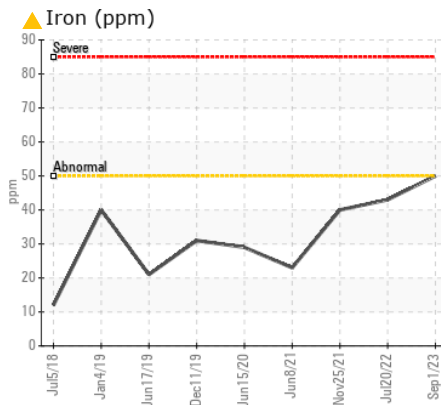
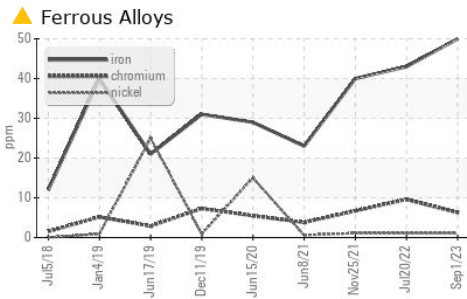
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>+100	7	6	8
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	1
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	ASTM D7844*		0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	13.4	10.2	13.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	27.9	22.4	27.9
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		10	11	13
Boron	ppm	ASTM D5185(m)	50	7	7	4
Barium	ppm	ASTM D5185(m)	5	0	0	0
Molybdenum	ppm	ASTM D5185(m)	50	63	59	59
Manganese	ppm	ASTM D5185(m)	0	1	1	1
Magnesium	ppm	ASTM D5185(m)	560	713	617	723
Calcium	ppm	ASTM D5185(m)	1510	1758	1837	1666
Phosphorus	ppm	ASTM D5185(m)	780	866	755	846
Zinc	ppm	ASTM D5185(m)	870	1067	1026	1042
Sulfur	ppm	ASTM D5185(m)	2040	2050	2091	2042
Oxidation	Abs/.1mm	ASTM D7414*	>25	22.2	17.9	23.2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	15.3	15.1	14.3



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0088966 **Received** : 05 Sep 2023
Lab Number : 02580323 **Tested** : 05 Sep 2023
Unique Number : 5633383 **Diagnosed** : 06 Sep 2023 - Kevin Marson
Test Package : MOB 1 (Additional Tests: PQ)

GFL Environmental - 216
 15 Bermondsey Road
 Toronto, ON
 CA M4B 1Y9
 Contact: Tom Hatzioannidis
 thatzioannidis@gflenv.com
 T: (416)678-9340
 F:

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.