



Machine Id
8408
Component
Diesel Engine
Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

WEAR

Iron ppm levels are severe. Chromium ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated. Ring wear is indicated.

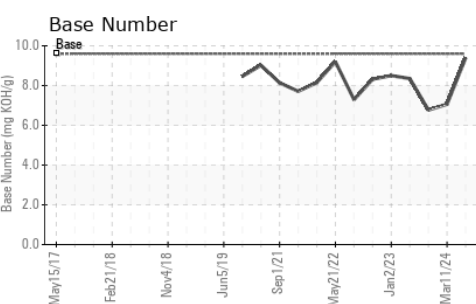
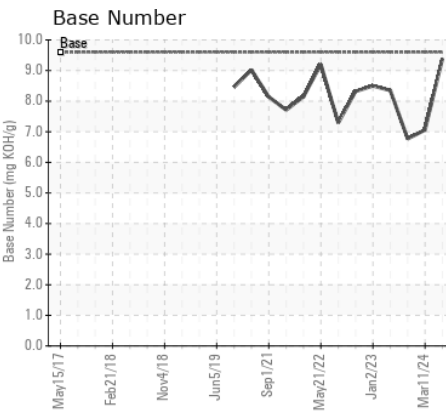
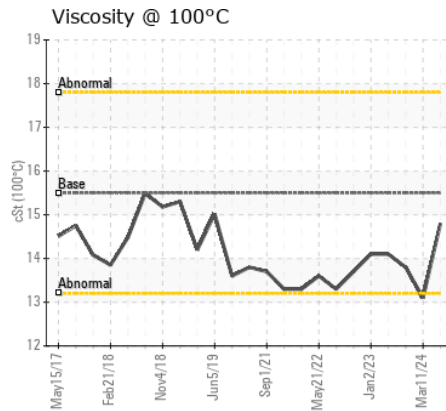
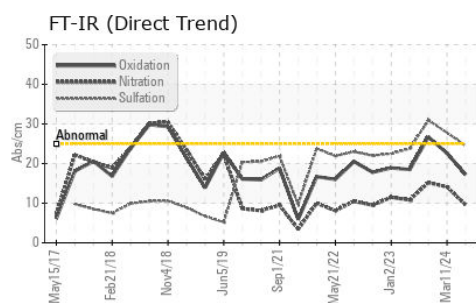
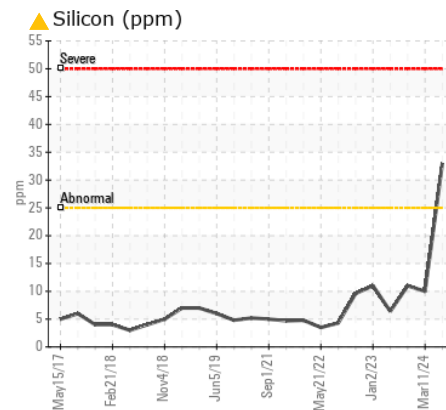
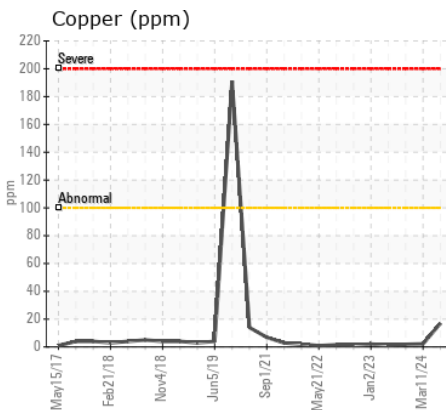
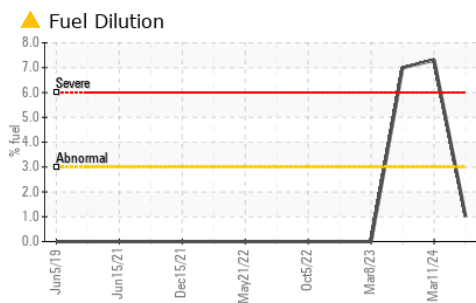
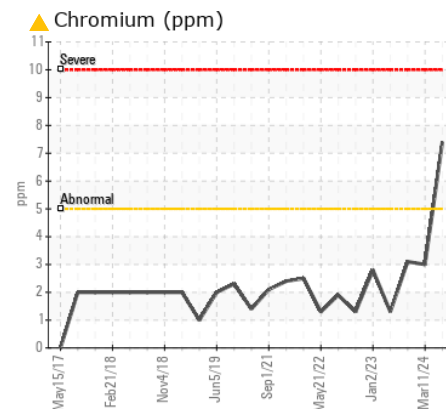
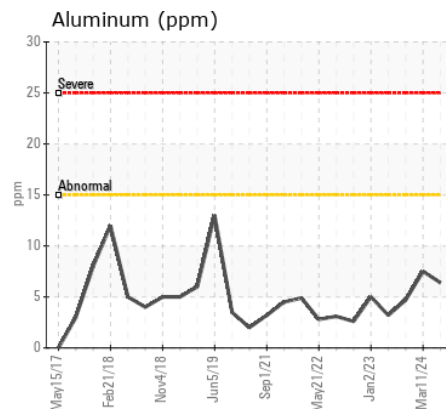
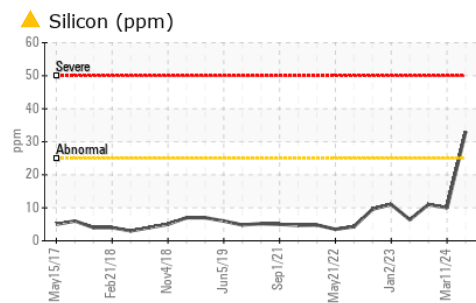
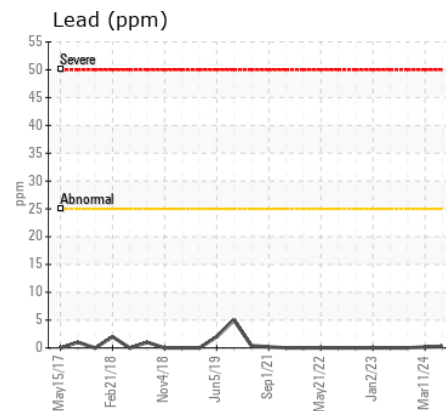
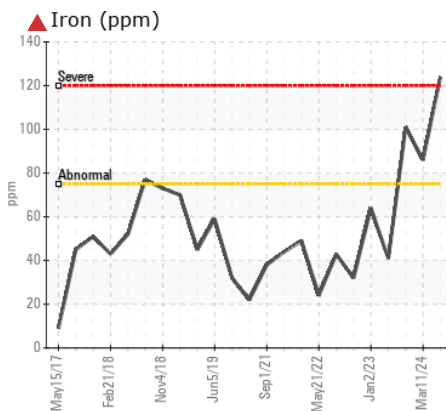
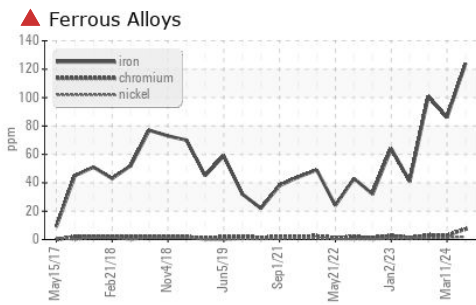
CONTAMINATION

Light fuel dilution occurring. There is a moderate concentration of dirt present in the oil. High amount of ingressed dirt has caused abrasive wear to the component. No other contaminants were detected in the oil.

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0112436	GFL0112467	GFL0099586
Sample Date		Client Info		30 Jun 2024	11 Mar 2024	11 Dec 2023
Machine Age	hrs	Client Info		17603	17015	16561
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	SEVERE
PQ		ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>75	▲ 124	▲ 86	▲ 101
Chromium	ppm	ASTM D5185(m)	>5	▲ 7	3	3
Nickel	ppm	ASTM D5185(m)	>4	2	1	<1
Titanium	ppm	ASTM D5185(m)	>2	<1	0	0
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>15	6	8	5
Lead	ppm	ASTM D5185(m)	>25	<1	<1	0
Copper	ppm	ASTM D5185(m)	>100	17	2	2
Tin	ppm	ASTM D5185(m)	>4	<1	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Silicon	ppm	ASTM D5185(m)	>25	▲ 33	10	11
Potassium	ppm	ASTM D5185(m)	>20	1	2	2
Fuel	%	ASTM D7593*	>3.0	▲ 1	▲ 7.3	▲ 7
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	0.0
Soot %	%	ASTM D7844*	>6	2.7	3.1	3.7
Nitration	Abs/cm	ASTM D7624*	>20	9.6	14.1	15.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.5	27.8	30.9
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185(m)		11	156	179
Boron	ppm	ASTM D5185(m)	1	5	2	2
Barium	ppm	ASTM D5185(m)	1	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	60	58	61	58
Manganese	ppm	ASTM D5185(m)	1	2	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	892	847	833
Calcium	ppm	ASTM D5185(m)	1070	1025	967	931
Phosphorus	ppm	ASTM D5185(m)	1150	909	900	866
Zinc	ppm	ASTM D5185(m)	1270	1114	1051	1035
Sulfur	ppm	ASTM D5185(m)	2060	2282	2288	2197
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.2	22.6	26.7
Base Number (BN)	mg KOH/g	ASTM D2896*	9.6	9.39	7.06	6.77
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	14.8	13.1	13.8



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0112436
Lab Number : 02645718
Unique Number : 5803257
Test Package : MOB 2 (Additional Tests: PercentFuel, PQ)

GFL Environmental - 550 - Rocky View County
 220 Carmek Blvd
 Rocky View County, AB
 CA T1X 1X1
 Contact: GFL Calgary
 calgarymaintenance@gflenv.com

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.

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