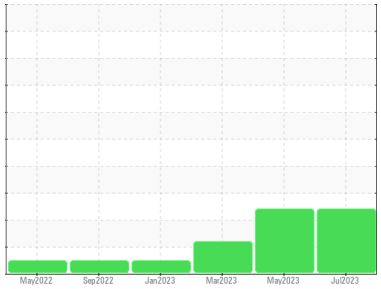
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
0547
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0084296**	GFL0077605	GFL0070744
Sample Date		Client Info		**25 Jul 2023**	17 May 2023	08 Mar 2023
Machine Age	kms	Client Info		**336924**	323824	17245
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	Changed	N/A
Sample Status				**SEVERE**	SEVERE	ABNORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**20**	20	22
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**0**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	2	2
Lead	ppm	ASTM D5185(m)	>40	**4**	5	2
Copper	ppm	ASTM D5185(m)	>330	**3**	4	2
Tin	ppm	ASTM D5185(m)	>15	**1**	1	<1
Antimony	ppm	ASTM D5185(m)		**0**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

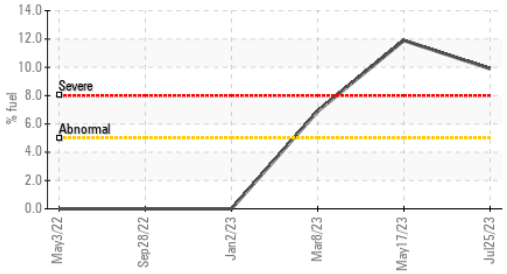
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**2**	2	2
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**49**	50	53
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**796**	806	844
Calcium	ppm	ASTM D5185(m)	1070	**853**	919	1046
Phosphorus	ppm	ASTM D5185(m)	1150	**896**	907	984
Zinc	ppm	ASTM D5185(m)	1270	**985**	992	1076
Sulfur	ppm	ASTM D5185(m)	2060	**2063**	2119	2333
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**7**	6	7
Sodium	ppm	ASTM D5185(m)		**2**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Fuel	%	ASTM D7593*	>5	**9.9**	11.9	6.9

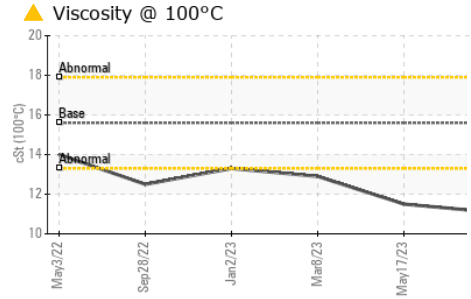
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.4**	0.5	0.5
Nitration	Abs/cm	ASTM D7624*	>20	**12.4**	11.8	12.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	**26.7**	23.8	24.9

OIL ANALYSIS REPORT

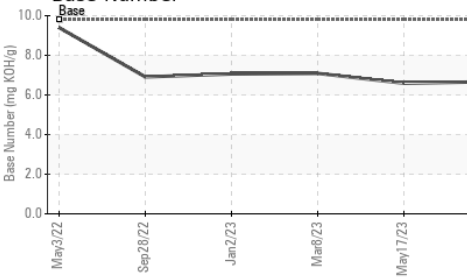
Fuel Dilution



Viscosity @ 100°C



Base Number



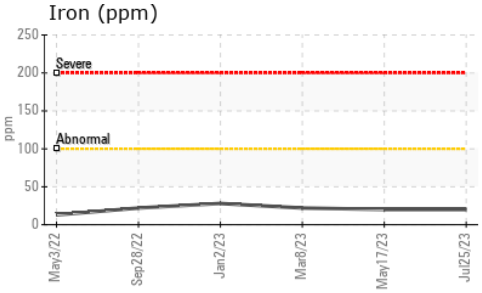
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**32.6**	26.6	23.0
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	**6.67**	6.59	7.09

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

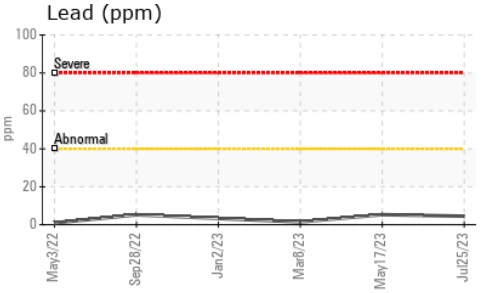
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	▲ **11.1**	▲ 11.5	▲ 12.9

GRAPHS

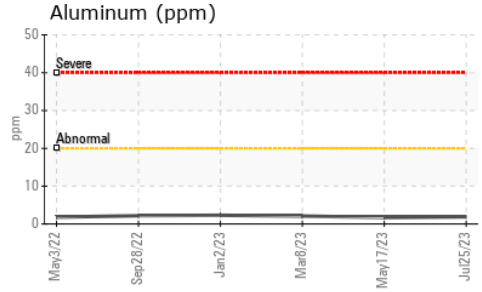
Iron (ppm)



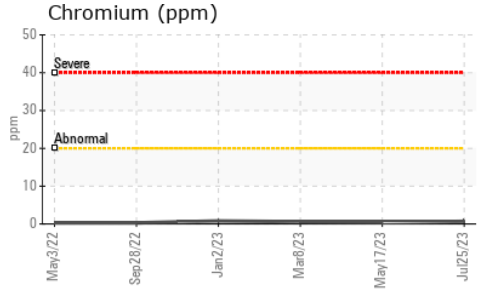
Lead (ppm)



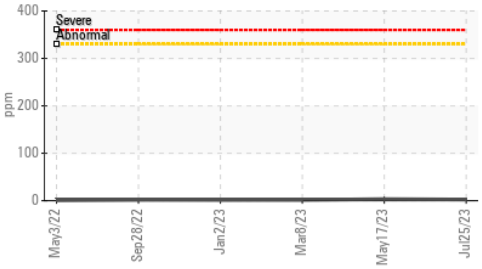
Aluminum (ppm)



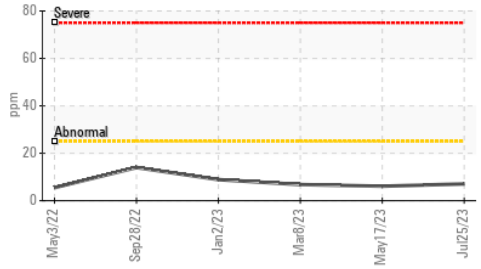
Chromium (ppm)



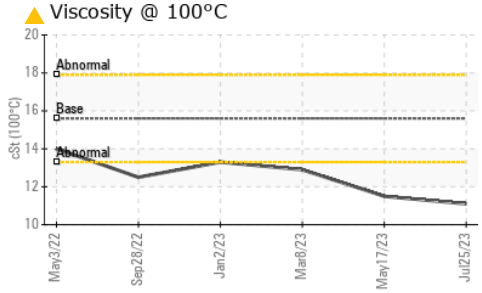
Copper (ppm)



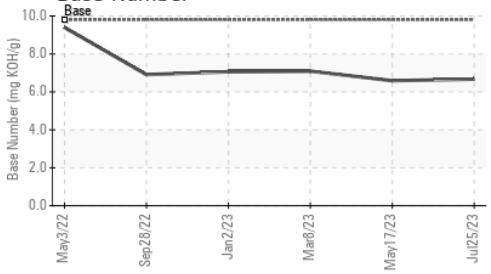
Silicon (ppm)



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 550 - Rocky View County**
Sample No. : GFL0084296 **Received** : 02 Aug 2023 220 Carmek Blvd
Lab Number : 02573646 **Diagnosed** : 03 Aug 2023 Rocky View County, AB
Unique Number : 5618697 **Diagnostician** : Kevin Marson CA T1X 1X1
Test Package : MOB 2 (Additional Tests: PercentFuel) Contact: GFL Calgary

To discuss this sample report, contact Customer Service at 1-800-268-2131. calgarymaintenance@gflenv.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T:
Validity of results and interpretation are based on the sample and information as supplied. F: (403)369-6163