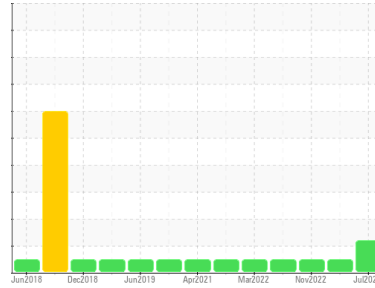




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
901075
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate 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		GFL0084290	GFL0077631	GFL0063726
Sample Date	Client Info		26 Jul 2023	01 Jun 2023	30 Nov 2022
Machine Age	kms	Client Info	133823	128889	11632
Oil Age	kms	Client Info	0	0	627
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			ABNORMAL	NORMAL	NORMAL

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) >120	11	16	11
Chromium	ppm	ASTM D5185(m) >20	<1	<1	<1
Nickel	ppm	ASTM D5185(m) >5	0	<1	1
Titanium	ppm	ASTM D5185(m) >2	0	0	<1
Silver	ppm	ASTM D5185(m) >2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m) >20	2	2	4
Lead	ppm	ASTM D5185(m) >40	0	0	<1
Copper	ppm	ASTM D5185(m) >330	1	2	15
Tin	ppm	ASTM D5185(m) >15	0	0	<1
Antimony	ppm	ASTM D5185(m)	0	0	<1
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	3
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 60	56	60	56
Manganese	ppm	ASTM D5185(m) 0	<1	<1	3
Magnesium	ppm	ASTM D5185(m) 1010	923	975	903
Calcium	ppm	ASTM D5185(m) 1070	995	1086	1046
Phosphorus	ppm	ASTM D5185(m) 1150	1032	1057	1040
Zinc	ppm	ASTM D5185(m) 1270	1142	1209	1139
Sulfur	ppm	ASTM D5185(m) 2060	2431	2462	2586
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	6	6	11
Sodium	ppm	ASTM D5185(m)	4	6	4
Potassium	ppm	ASTM D5185(m) >20	<1	<1	<1
Fuel	%	ASTM D7593* >3.0	▲ 4.5	<1.0	1.2

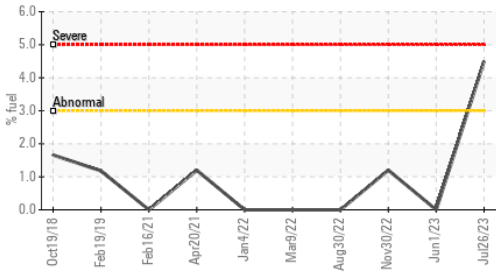
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	0.5	0.6	0
Nitration	Abs/cm	ASTM D7624* >20	8.1	9.5	6.4
Sulfation	Abs/.1mm	ASTM D7415* >30	20.7	21.0	19.9



OIL ANALYSIS REPORT

▲ Fuel Dilution



FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs:1mm ASTM D7414*	>25	17.6	14.8
Base Number (BN)	mg KOH/g ASTM D2896*	9.8	7.76	8.86

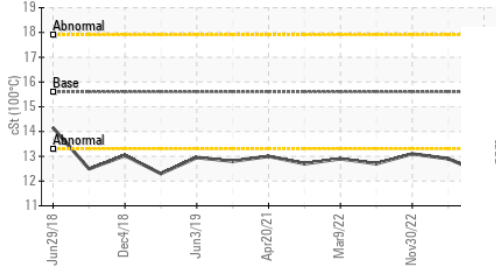
VISUAL

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

FLUID PROPERTIES

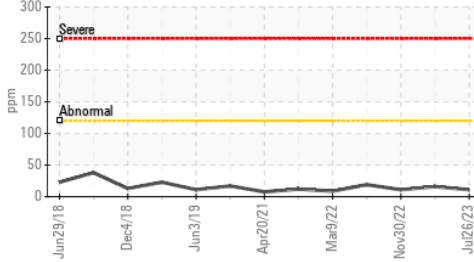
method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D7279(m)	15.6	12.9	13.1

▲ Viscosity @ 100°C

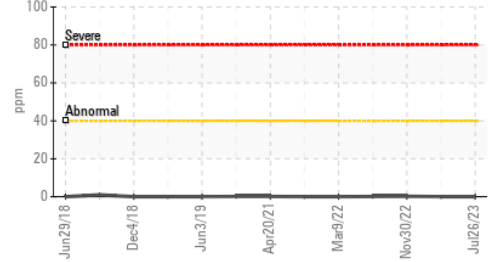


GRAPHS

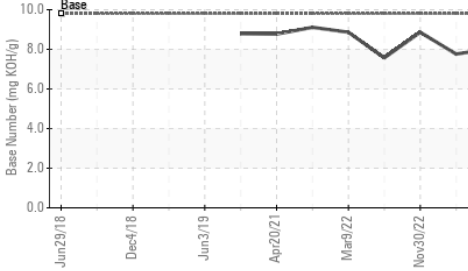
Iron (ppm)



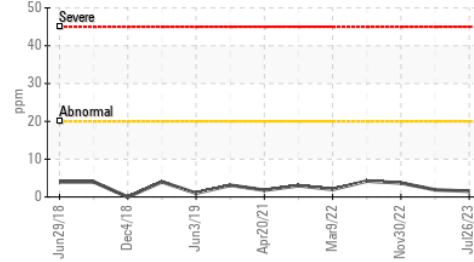
Lead (ppm)



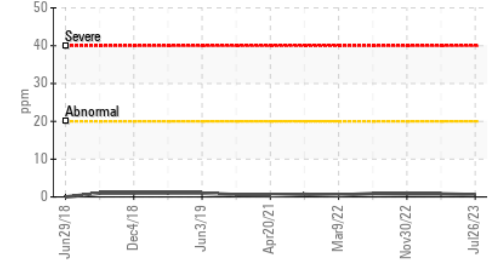
Base Number



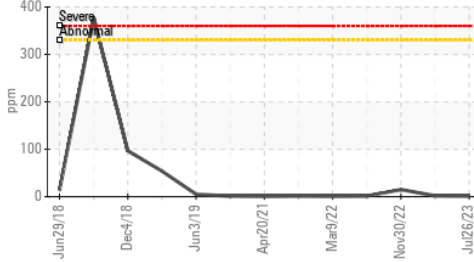
Aluminum (ppm)



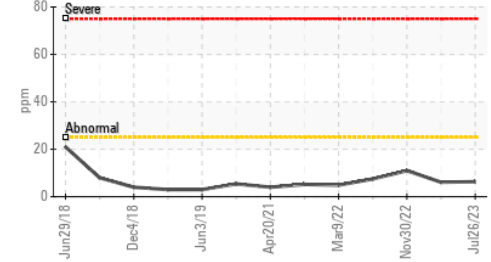
Chromium (ppm)



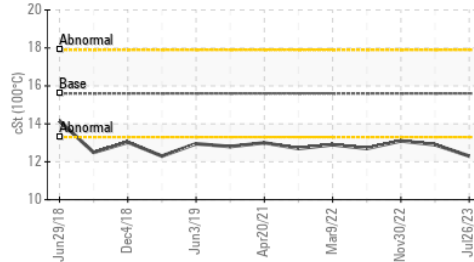
Copper (ppm)



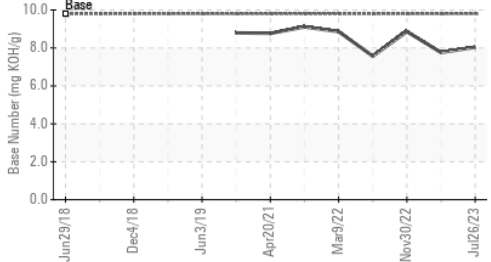
Silicon (ppm)



▲ Viscosity @ 100°C



Base Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County
Sample No. : GFL0084290 **Received** : 02 Aug 2023 220 Carmek Blvd
Lab Number : 02573642 **Diagnosed** : 03 Aug 2023 Rocky View County, AB
Unique Number : 5618693 **Diagnostician** : Wes Davis CA T1X 1X1
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel) 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.

F: (403)369-6163