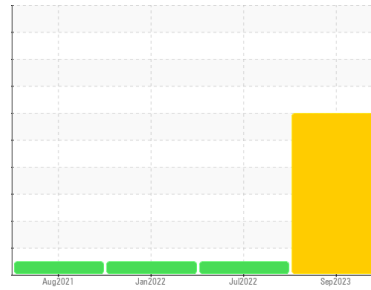




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
8286

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Test for glycol is positive. Light fuel dilution occurring. There is a light concentration of glycol present 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	GFL0091630	GFL0054174	GFL0041408
Sample Date	Client Info	25 Sep 2023	06 Jul 2022	17 Jan 2022
Machine Age	kms Client Info	502384	0	0
Oil Age	kms Client Info	0	0	0
Oil Changed	Client Info	N/A	Changed	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185(m)	>90	22	21	29
Chromium ppm ASTM D5185(m)	>4	<1	<1	<1
Nickel ppm ASTM D5185(m)	>4	0	0	<1
Titanium ppm ASTM D5185(m)	>2	0	0	0
Silver ppm ASTM D5185(m)	>2	<1	0	0
Aluminum ppm ASTM D5185(m)	>15	1	1	1
Lead ppm ASTM D5185(m)	>50	2	<1	<1
Copper ppm ASTM D5185(m)	>55	7	6	<1
Tin ppm ASTM D5185(m)	>4	<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	6
Barium ppm ASTM D5185(m)	0	<1	0	0
Molybdenum ppm ASTM D5185(m)	60	63	53	56
Manganese ppm ASTM D5185(m)	0	0	<1	<1
Magnesium ppm ASTM D5185(m)	1010	991	960	959
Calcium ppm ASTM D5185(m)	1070	1050	1068	959
Phosphorus ppm ASTM D5185(m)	1150	1036	987	991
Zinc ppm ASTM D5185(m)	1270	1229	1122	1058
Sulfur ppm ASTM D5185(m)	2060	2586	1901	2636
Lithium ppm ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185(m)	>15	6	4	5
Sodium ppm ASTM D5185(m)		▲ 36	6	4
Potassium ppm ASTM D5185(m)	>20	▲ 10	2	<1
Fuel % ASTM D7593*	>3.0	▲ 1	<1.0	<1.0
Glycol % ASTM D7922*		▲ 0.03	NEG	NEG

INFRA-RED

method	limit/base	current	history1	history2
Soot % ASTM D7844*	>6	0.6	0.2	0
Nitration Abs/cm ASTM D7624*	>20	7.8	6.5	5.8
Sulfation Abs/.1mm ASTM D7415*	>30	20.3	21.4	19.3

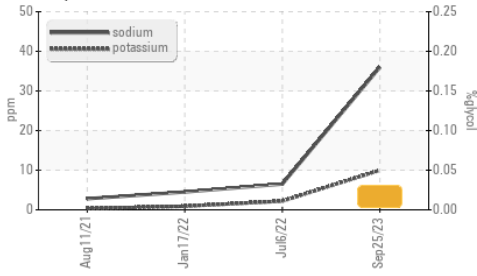
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation Abs/.1mm ASTM D7414*	>25	15.6	15.3	13.9
Base Number (BN) mg KOH/g ASTM D2896*	9.8	9.04	---	---

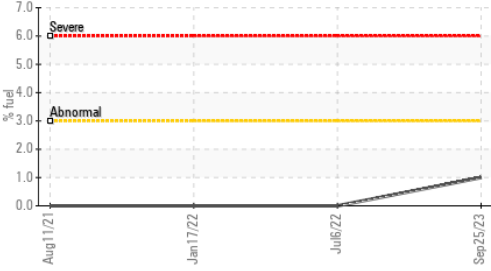


OIL ANALYSIS REPORT

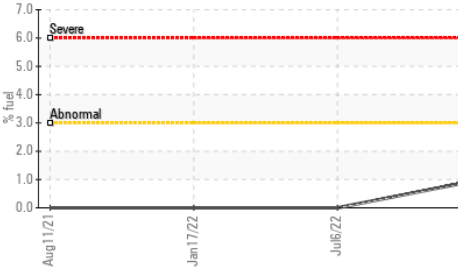
▲ Glycol Contamination



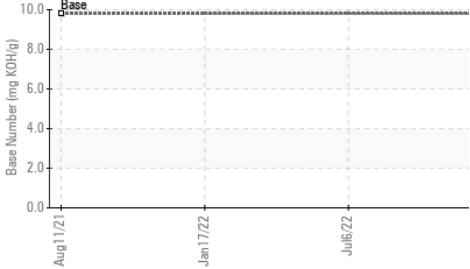
▲ Fuel Dilution



▲ Fuel Dilution



Base Number

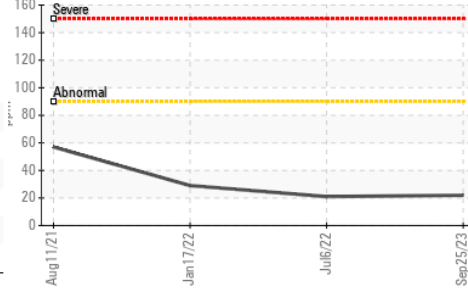


VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

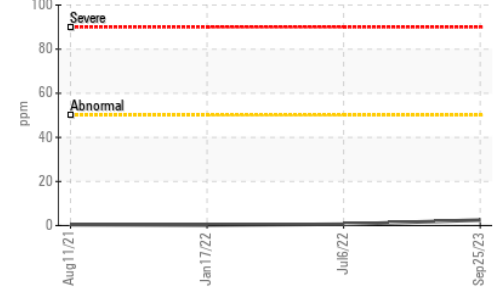
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4 ▲ 11.4	10.7	11.1

GRAPHS

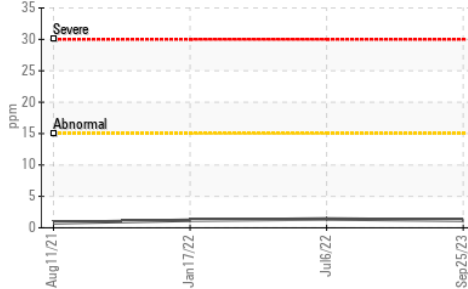
Iron (ppm)



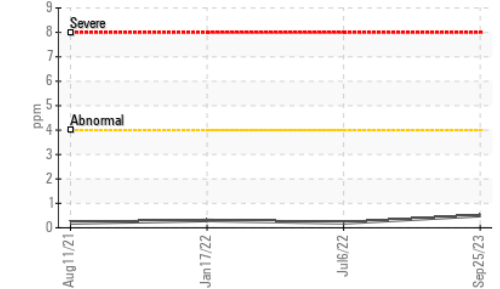
Lead (ppm)



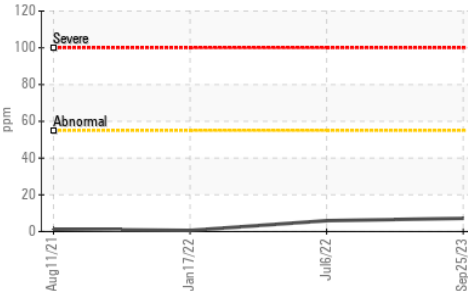
Aluminum (ppm)



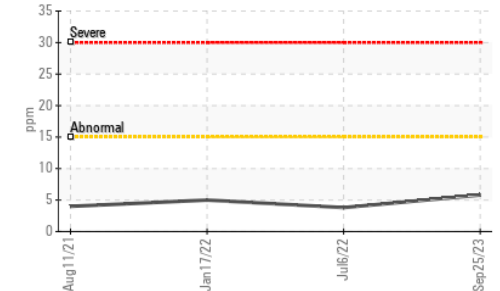
Chromium (ppm)



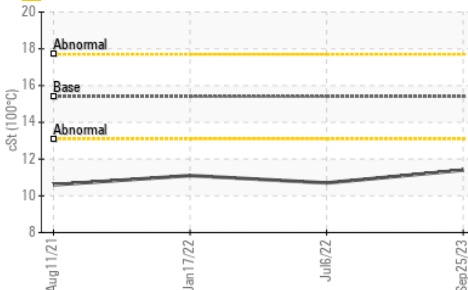
Copper (ppm)



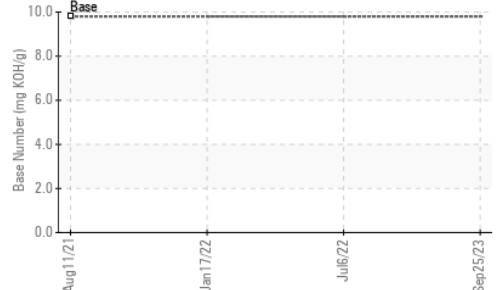
Silicon (ppm)



▲ 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. : GFL0091630 **Received** : 05 Oct 2023
Lab Number : 02586980 **Diagnosed** : 06 Oct 2023
Unique Number : 5656046 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, PercentFuel)

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.

220 Carmek Blvd
 Rocky View County, AB
 CA T1X 1X1
 Contact: GFL Calgary
 calgarymaintenance@gflenv.com
 T:
 F: (403)369-6163