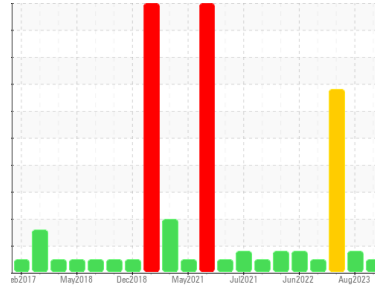




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

9132

Component

Diesel Engine

Fluid

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0091613	GFL0084304	GFL0070698
Sample Date	Client Info	12 Sep 2023	02 Aug 2023	21 Mar 2023
Machine Age	hrs	11454	11129	20028
Oil Age	hrs	300	500	600
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		NORMAL	ABNORMAL	SEVERE

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	0.0	0.0

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >75	30	▲ 76	▲ 87
Chromium	ppm ASTM D5185(m) >5	1	4	4
Nickel	ppm ASTM D5185(m) >4	<1	1	2
Titanium	ppm ASTM D5185(m) >2	0	<1	<1
Silver	ppm ASTM D5185(m) >2	0	0	0
Aluminum	ppm ASTM D5185(m) >15	6	14	■ 26
Lead	ppm ASTM D5185(m) >25	<1	<1	1
Copper	ppm ASTM D5185(m) >100	1	3	6
Tin	ppm ASTM D5185(m) >4	0	<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	3
Barium	ppm ASTM D5185(m) 0	0	0	0
Molybdenum	ppm ASTM D5185(m) 60	55	58	62
Manganese	ppm ASTM D5185(m) 0	<1	<1	1
Magnesium	ppm ASTM D5185(m) 1010	884	936	940
Calcium	ppm ASTM D5185(m) 1070	1034	1043	1145
Phosphorus	ppm ASTM D5185(m) 1150	1003	995	1016
Zinc	ppm ASTM D5185(m) 1270	1106	1161	1200
Sulfur	ppm ASTM D5185(m) 2060	2366	2343	2471
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

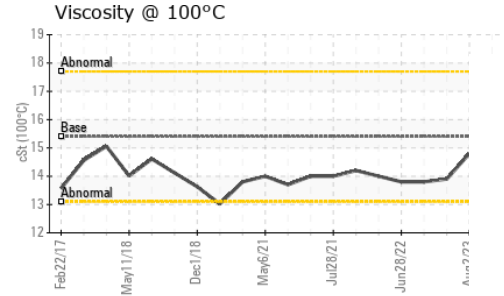
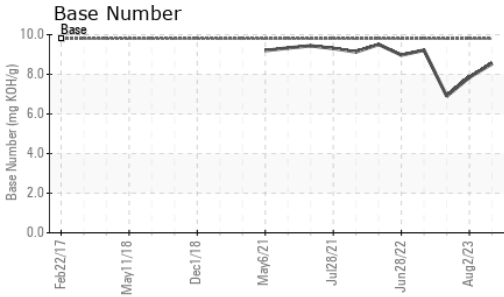
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	12	13	9
Sodium	ppm ASTM D5185(m)	5	9	11
Potassium	ppm ASTM D5185(m) >20	3	8	20

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >6	0.9	3	1.4
Nitration	Abs/cm ASTM D7624* >20	8.4	13.0	14.0
Sulfation	Abs/.1mm ASTM D7415* >30	21.1	27.8	28.2



OIL ANALYSIS REPORT

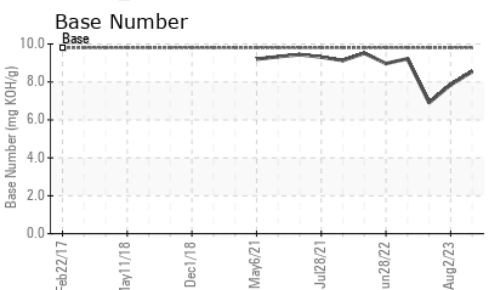
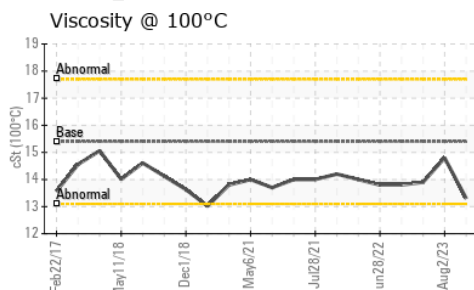
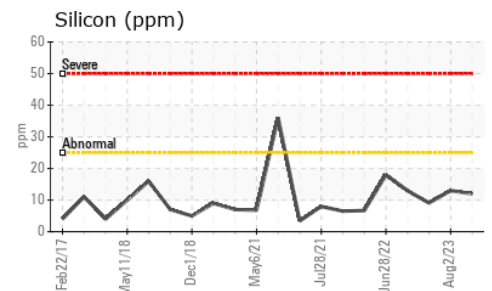
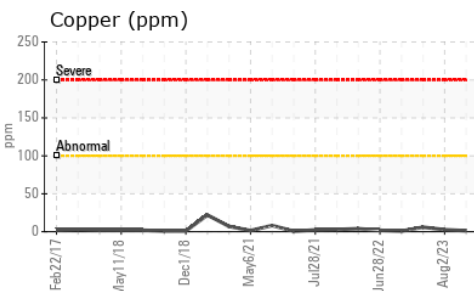
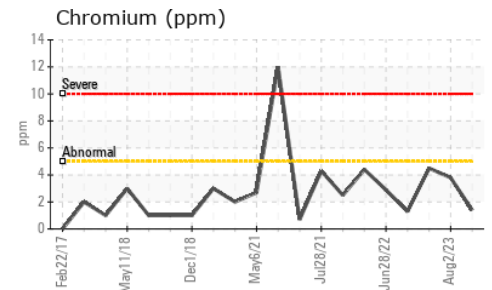
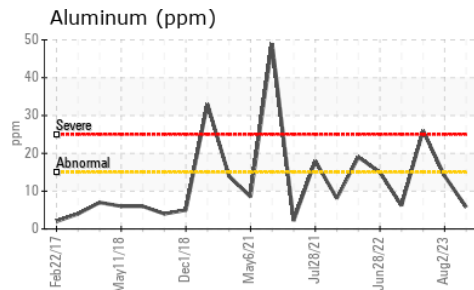
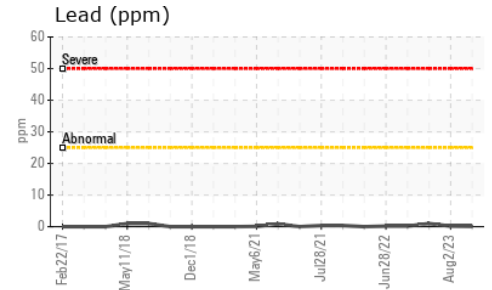
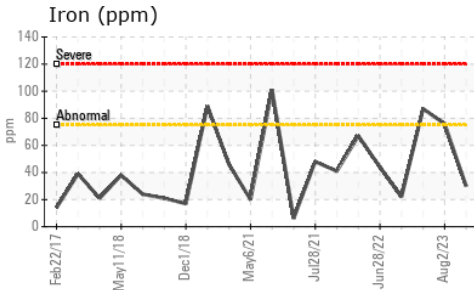


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.3	21.2	21.1
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	8.54	7.85	6.90

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)	15.4	13.3	14.8	13.9

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County
Sample No. : GFL0091613 **Received** : 19 Sep 2023
Lab Number : **02583462** **Diagnosed** : 20 Sep 2023
Unique Number : 5644527 **Diagnostician** : Wes Davis
Test Package : MOB 2

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.

Contact: GFL Calgary
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 T: (403)369-6163