



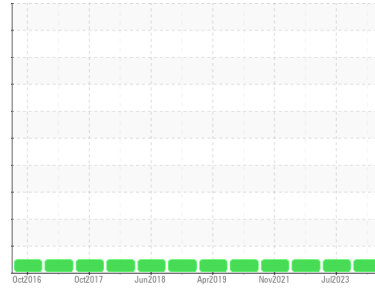
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
4485
Component
Front Diesel Engine
Fluid
PETRO CANADA 15W30 (39 LTR)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA 15W30, however, a fluid match indicates that this fluid is SAE 40 Diesel Engine Oil. Please confirm the oil type and grade on your next sample.

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. Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0091619	GFL0084267	GFL0077545
Sample Date	Client Info		20 Sep 2023	12 Jul 2023	28 Mar 2023
Machine Age	kms	Client Info	1020066	1010506	34670
Oil Age	kms	Client Info	9742	0	600
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>6.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>100	8	19	44
Chromium	ppm	ASTM D5185(m)	>20	0	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>25	2	4	8
Lead	ppm	ASTM D5185(m)	>40	1	1	<1
Copper	ppm	ASTM D5185(m)	>330	10	2	2
Tin	ppm	ASTM D5185(m)	>15	0	<1	<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)		3	3	5
Barium	ppm	ASTM D5185(m)		<1	0	0
Molybdenum	ppm	ASTM D5185(m)		58	57	60
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		932	957	944
Calcium	ppm	ASTM D5185(m)		1033	1033	1093
Phosphorus	ppm	ASTM D5185(m)		979	1024	1094
Zinc	ppm	ASTM D5185(m)		1158	1165	1178
Sulfur	ppm	ASTM D5185(m)		2535	2480	2628
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

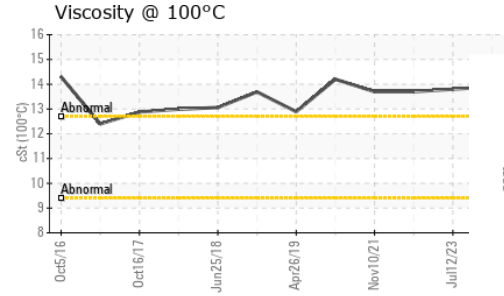
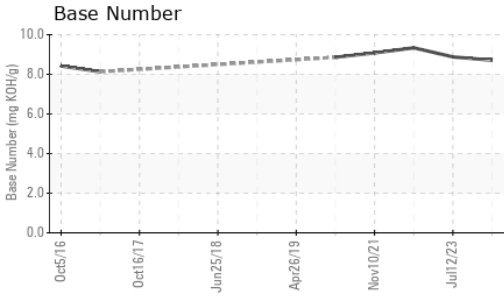
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	5	4	8
Sodium	ppm	ASTM D5185(m)		5	8	20
Potassium	ppm	ASTM D5185(m)	>20	0	<1	3

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.2	0.5	0.3
Nitration	Abs/cm	ASTM D7624*	>20	6.5	7.6	7.9
Sulfation	Abs./1mm	ASTM D7415*	>30	19.1	20.6	21.9



OIL ANALYSIS REPORT

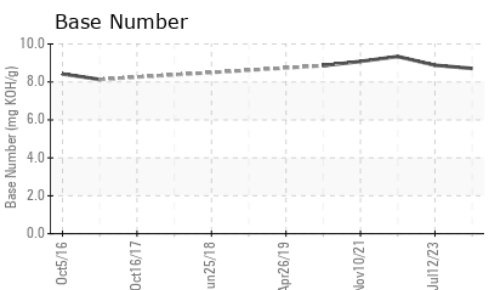
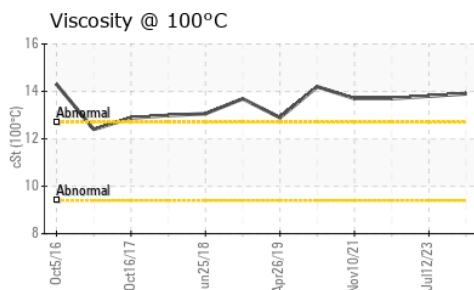
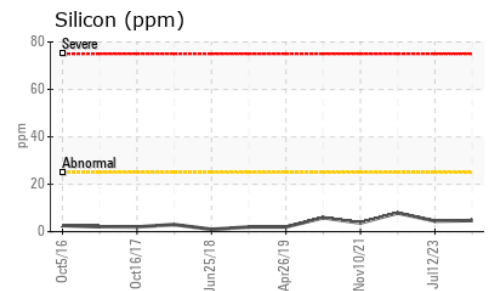
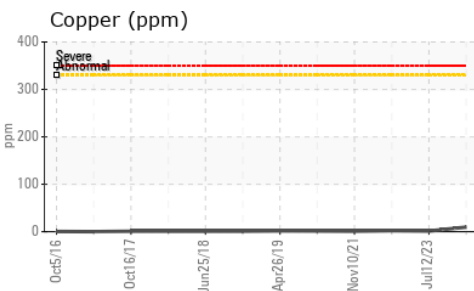
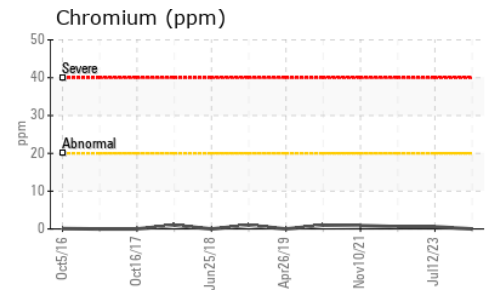
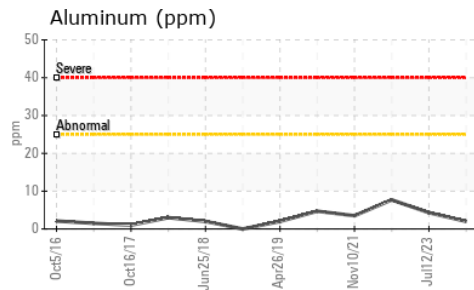
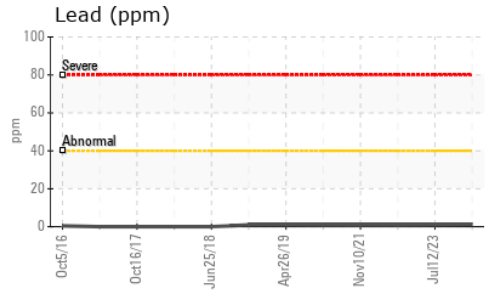
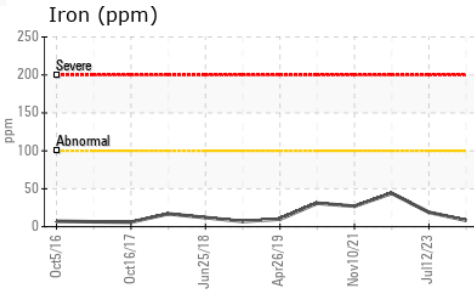


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	14.8	15.9	15.1
Base Number (BN)	mg KOH/g	ASTM D2896*		8.71	8.88	9.34

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)		13.9	13.8	13.7

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County
Sample No. : GFL0091619 **Received** : 27 Sep 2023 220 Carmek Blvd
Lab Number : **02585423** **Diagnosed** : 28 Sep 2023 Rocky View County, AB
Unique Number : 5646488 **Diagnostician** : Kevin Marson CA T1X 1X1
Test Package : MOB 2 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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