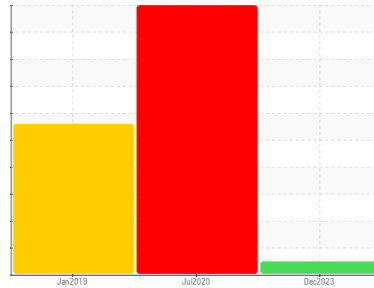




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
401029

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

Test for glycol is negative. 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		GFL0099589	PC0025954	PC0007081
Sample Date	Client Info		05 Dec 2023	08 Jul 2020	18 Jan 2019
Machine Age	kms	Client Info	539379	20344	17871
Oil Age	kms	Client Info	2685	500	400
Oil Changed	Client Info		Not Chngd	Changed	Changed
Sample Status			NORMAL	SEVERE	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>90	8	740	26
Chromium	ppm	ASTM D5185(m)	>4	<1	5	1
Nickel	ppm	ASTM D5185(m)	>4	<1	1	0
Titanium	ppm	ASTM D5185(m)	>2	0	<1	0
Silver	ppm	ASTM D5185(m)	>2	<1	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	2	7	2
Lead	ppm	ASTM D5185(m)	>50	0	33	3
Copper	ppm	ASTM D5185(m)	>55	<1	1058	1
Tin	ppm	ASTM D5185(m)	>4	0	<1	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	<1	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	2	133	71
Barium	ppm	ASTM D5185(m)	0	<1	3	0
Molybdenum	ppm	ASTM D5185(m)	60	58	27	18
Manganese	ppm	ASTM D5185(m)	0	0	18	<1
Magnesium	ppm	ASTM D5185(m)	1010	904	6	233
Calcium	ppm	ASTM D5185(m)	1070	997	54	2090
Phosphorus	ppm	ASTM D5185(m)	1150	954	948	1016
Zinc	ppm	ASTM D5185(m)	1270	1136	62	1260
Sulfur	ppm	ASTM D5185(m)	2060	2495	366	2997
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

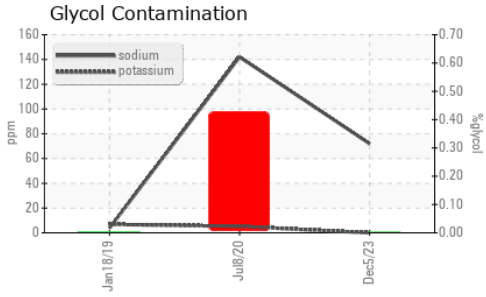
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Silicon	ppm	ASTM D5185(m)	>15	3	16	157
Sodium	ppm	ASTM D5185(m)		72	142	4
Potassium	ppm	ASTM D5185(m)	>20	0	5	7
Glycol	%	ASTM D7922*		0.0	0.428	0.0

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>6	0.2	0	2.6
Nitration	Abs/cm	ASTM D7624*	>20	6.3	8.4	11.4
Sulfation	Abs./1mm	ASTM D7415*	>30	19.1	52.8	28.1



OIL ANALYSIS REPORT

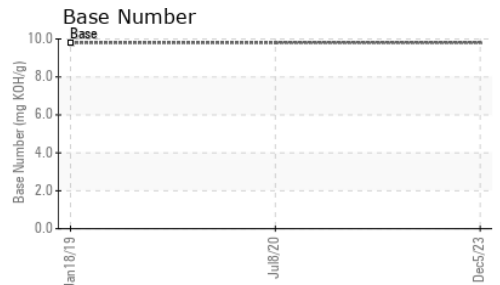
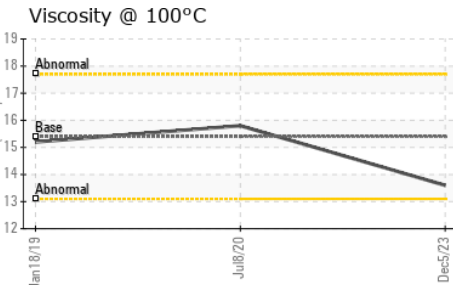
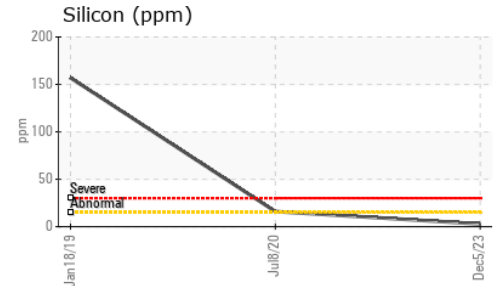
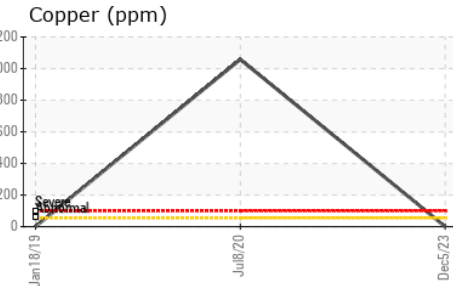
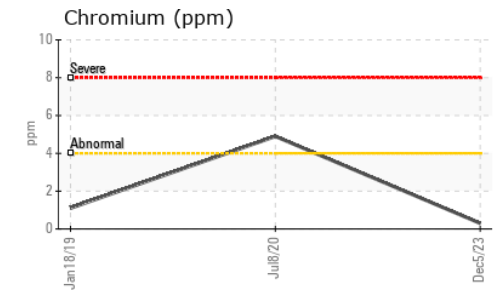
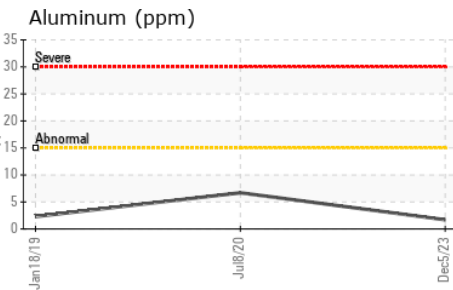
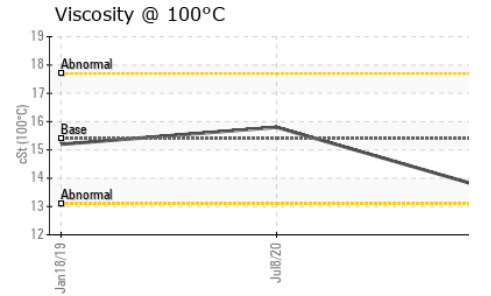
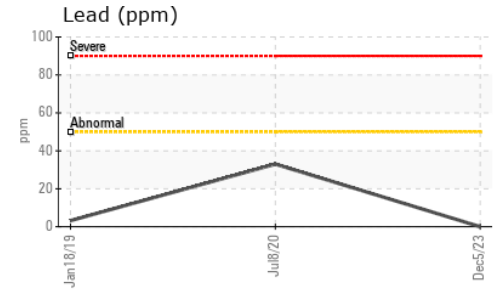
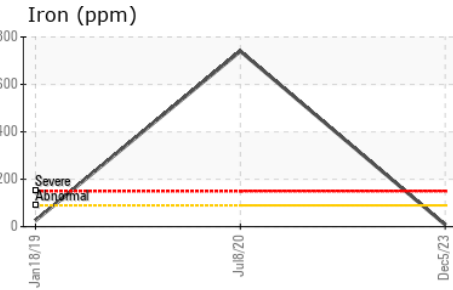
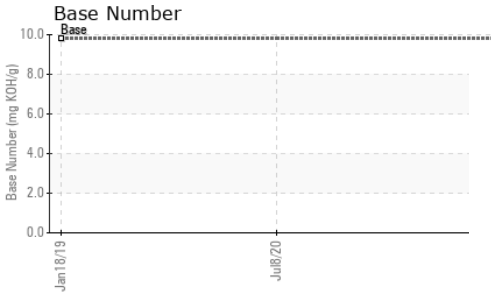


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	14.6	60.7	20.1
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	9.83	---	---

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	13.6	15.8	15.2

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County
Sample No. : GFL0099589 **Received** : 14 Dec 2023 220 Carmek Blvd
Lab Number : 02603004 **Diagnosed** : 15 Dec 2023 Rocky View County, AB
Unique Number : 5696089 **Diagnostician** : Wes Davis CA T1X 1X1
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