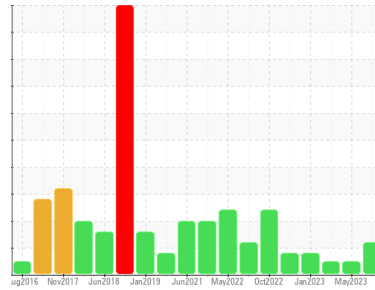




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
8269

Component
Front Diesel Engine

Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (22 LTR)

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	GFL0091568	GFL0077627	GFL0077554
Sample Date	Client Info	12 Oct 2023	18 May 2023	01 Apr 2023
Machine Age	hrs	15960	304790	15018
Oil Age	hrs	0	304790	782
Oil Changed	Client Info	Changed	Changed	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) >75	37	18	28
Chromium	ppm	ASTM D5185(m) >5	2	<1	1
Nickel	ppm	ASTM D5185(m) >4	<1	<1	<1
Titanium	ppm	ASTM D5185(m) >2	0	<1	<1
Silver	ppm	ASTM D5185(m) >2	<1	0	0
Aluminum	ppm	ASTM D5185(m) >15	5	3	5
Lead	ppm	ASTM D5185(m) >25	<1	<1	0
Copper	ppm	ASTM D5185(m) >100	1	<1	1
Tin	ppm	ASTM D5185(m) >4	0	0	<1
Antimony	ppm	ASTM D5185(m)	0	<1	<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) 1	2	2	2
Barium	ppm	ASTM D5185(m) 1	<1	0	0
Molybdenum	ppm	ASTM D5185(m) 60	52	56	56
Manganese	ppm	ASTM D5185(m) 1	0	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	825	905	892
Calcium	ppm	ASTM D5185(m) 1070	916	1042	1080
Phosphorus	ppm	ASTM D5185(m) 1150	844	998	1008
Zinc	ppm	ASTM D5185(m) 1270	1042	1102	1124
Sulfur	ppm	ASTM D5185(m) 2060	2074	2368	2352
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

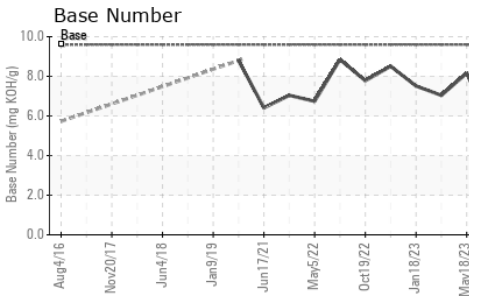
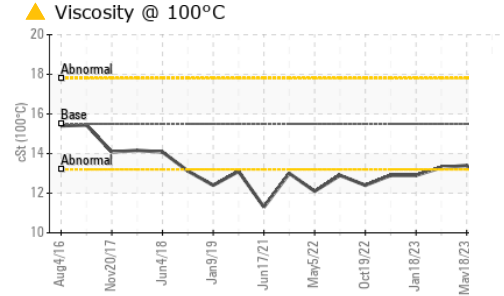
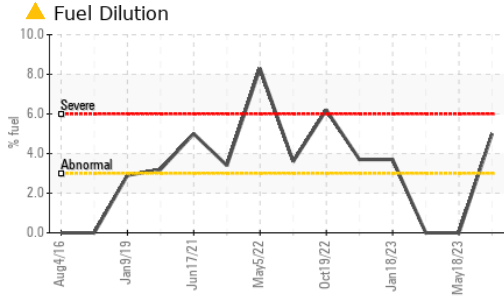
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >25	17	6	9
Sodium	ppm	ASTM D5185(m)	8	6	9
Potassium	ppm	ASTM D5185(m) >20	<1	0	1
Fuel	%	ASTM D7593* >3.0	▲ 5	<1.0	<1.0

INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >6	1.6	0.7	0.9
Nitration	Abs/cm	ASTM D7624* >20	12.8	8.7	10.0
Sulfation	Abs/.1mm	ASTM D7415* >30	28.8	21.1	22.3



OIL ANALYSIS REPORT

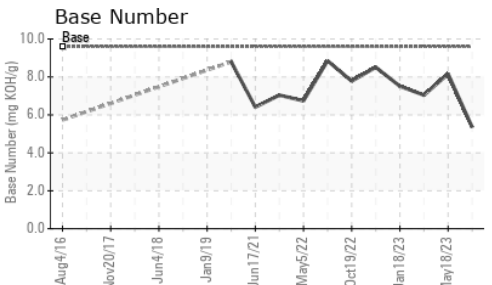
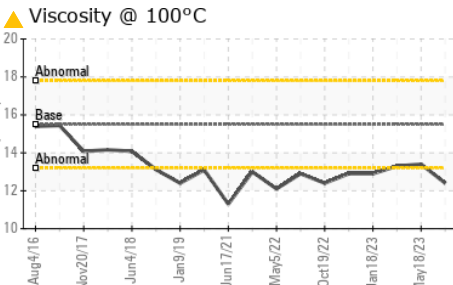
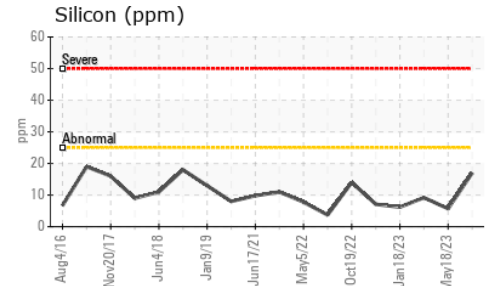
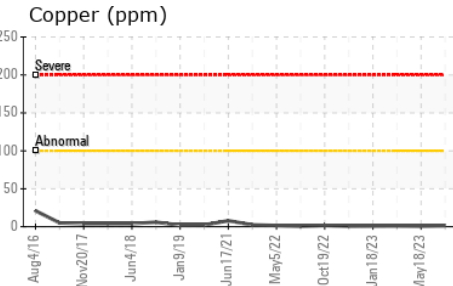
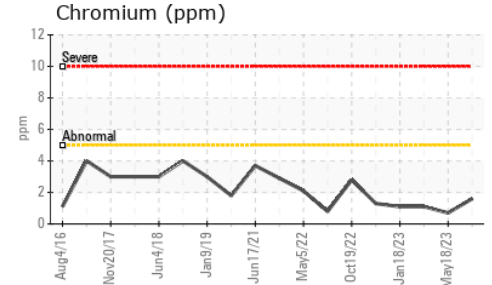
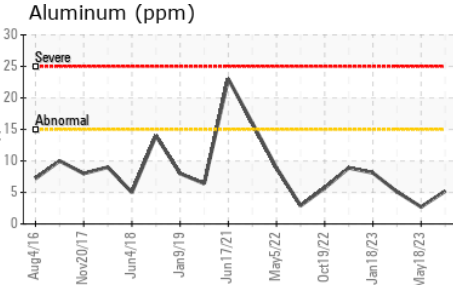
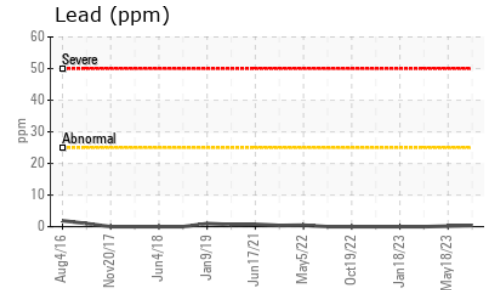
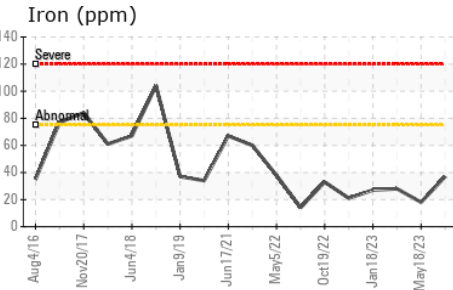


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	30.3	18.0	19.4
Base Number (BN)	mg KOH/g	ASTM D2896*	9.6	5.35	8.16	7.04

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)	15.5	▲ 12.4	13.4	13.3

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County
Sample No. : GFL0091568 **Received** : 17 Oct 2023 220 Carmek Blvd
Lab Number : 02589479 **Diagnosed** : 19 Oct 2023 Rocky View County, AB
Unique Number : 5658545 **Diagnostician** : Kevin Marson CA T1X 1X1
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)
 Contact: GFL Calgary calgarymaintenance@gflenv.com
 T: (403)369-6163

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.