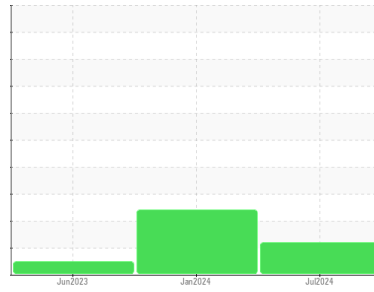




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id

826045

Component

Diesel Engine

Fluid

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

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter 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

Sodium and/or potassium levels are high.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0119880	GFL0103602	GFL0085320
Sample Date	Client Info		01 Jul 2024	29 Jan 2024	16 Jun 2023
Machine Age	hrs	Client Info	24103	24103	24103
Oil Age	hrs	Client Info	600	498	583
Oil Changed	Client Info		N/A	N/A	Changed
Sample Status			ATTENTION	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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 D5185m >100	16	40	31
Chromium	ppm	ASTM D5185m >20	<1	2	1
Nickel	ppm	ASTM D5185m >4	0	1	<1
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	10	6
Lead	ppm	ASTM D5185m >40	0	1	<1
Copper	ppm	ASTM D5185m >330	<1	2	2
Tin	ppm	ASTM D5185m >15	0	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	2	4	2
Barium	ppm	ASTM D5185m 0	0	<1	<1
Molybdenum	ppm	ASTM D5185m 60	61	68	60
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	988	923	1000
Calcium	ppm	ASTM D5185m 1070	1086	1042	1148
Phosphorus	ppm	ASTM D5185m 1150	1068	1002	1026
Zinc	ppm	ASTM D5185m 1270	1300	1224	1297
Sulfur	ppm	ASTM D5185m 2060	3564	3016	3492

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	9	5
Sodium	ppm	ASTM D5185m	113	▲ 190	14
Potassium	ppm	ASTM D5185m >20	7	▲ 32	8
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

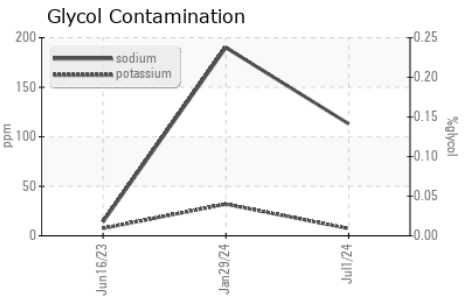
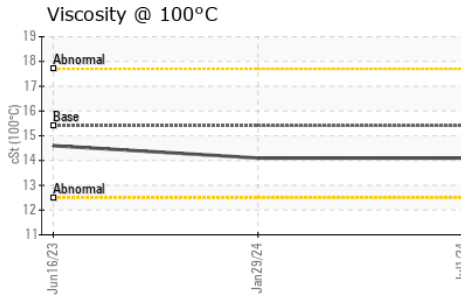
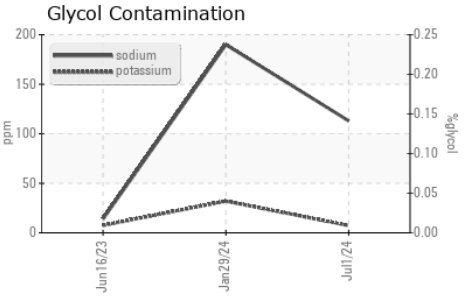
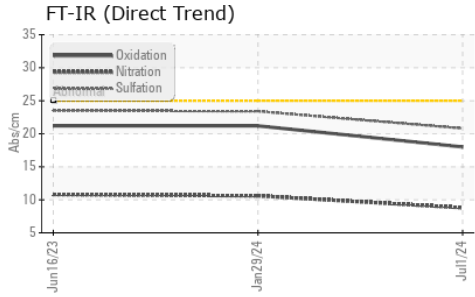
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	0.6	0.8
Nitration	Abs/cm	*ASTM D7624 >20	8.8	10.6	10.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.8	23.4	23.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.0	21.2	21.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.5	6.7	7.3



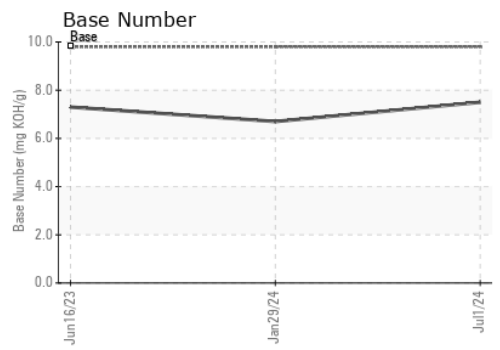
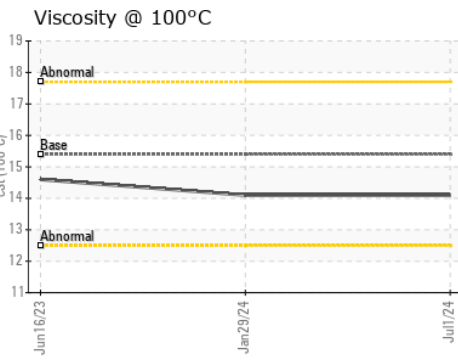
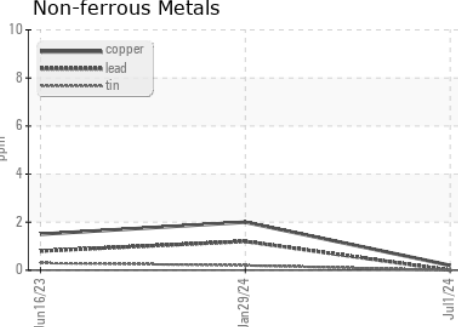
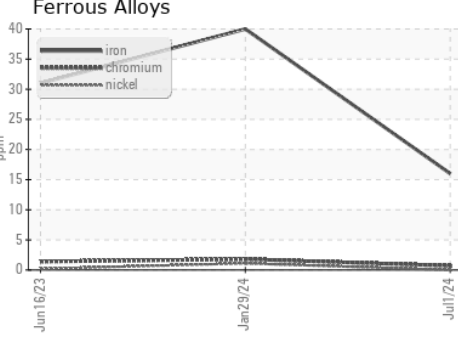
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
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 D445	15.4	14.1	14.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0119880 **Received** : 05 Jul 2024
Lab Number : 06229458 **Tested** : 09 Jul 2024
Unique Number : 11112951 **Diagnosed** : 09 Jul 2024 - Sean Felton
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 958 - Tri County HC Morton
 1090 W. Jefferson St.
 Morton, IL
 US 61550
 Contact: Bryan Link
 blink@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)