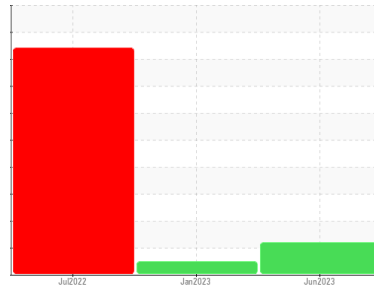




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
726068

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. Resample at the next service interval to monitor.

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	history 1	history 2	
Sample Number	Client Info	GFL0015792	GFL0067544	GFL0041567	
Sample Date	Client Info	28 Jun 2023	23 Jan 2023	14 Jul 2022	
Machine Age	hrs	Client Info	17571	17277	17571
Oil Age	hrs	Client Info	17571	17571	0
Oil Changed	Client Info	N/A	N/A	Changed	
Sample Status		ABNORMAL	NORMAL	SEVERE	

CONTAMINATION

method	limit/base	current	history 1	history 2
Fuel	WC Method >5	<1.0	<1.0	<1.0

WEAR METALS

method	limit/base	current	history 1	history 2
Iron	ppm ASTM D5185m >80	29	9	33
Chromium	ppm ASTM D5185m >5	5	<1	3
Nickel	ppm ASTM D5185m >2	2	0	3
Titanium	ppm ASTM D5185m	2	0	<1
Silver	ppm ASTM D5185m >3	1	<1	<1
Aluminum	ppm ASTM D5185m >30	9	1	4
Lead	ppm ASTM D5185m >30	6	2	8
Copper	ppm ASTM D5185m >150	6	5	22
Tin	ppm ASTM D5185m >5	2	<1	<1
Vanadium	ppm ASTM D5185m	1	0	<1
Cadmium	ppm ASTM D5185m	2	0	<1

ADDITIVES

method	limit/base	current	history 1	history 2
Boron	ppm ASTM D5185m 0	9	37	166
Barium	ppm ASTM D5185m 0	19	0	0
Molybdenum	ppm ASTM D5185m 60	60	16	106
Manganese	ppm ASTM D5185m 0	3	<1	<1
Magnesium	ppm ASTM D5185m 1010	846	554	124
Calcium	ppm ASTM D5185m 1070	1161	1047	2020
Phosphorus	ppm ASTM D5185m 1150	892	622	945
Zinc	ppm ASTM D5185m 1270	1088	837	1159
Sulfur	ppm ASTM D5185m 2060	3299	3187	4045

CONTAMINANTS

method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m >20	12	6	25
Sodium	ppm ASTM D5185m	156	41	673
Potassium	ppm ASTM D5185m >20	38	14	718
Glycol	% *ASTM D2982	NEG	NEG	0.12

INFRA-RED

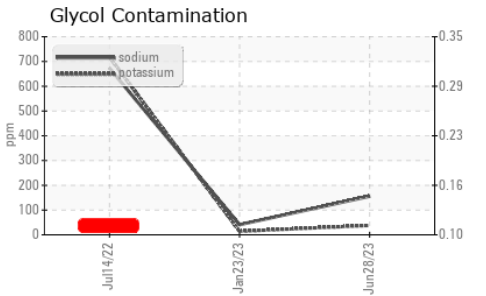
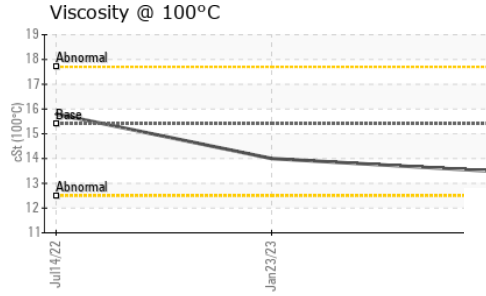
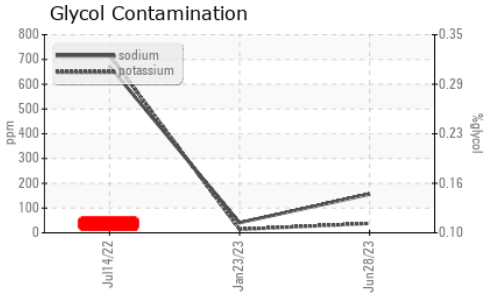
method	limit/base	current	history 1	history 2
Soot %	% *ASTM D7844 >3	0.3	0.1	0.3
Nitration	Abs/cm *ASTM D7624 >20	9.0	5.7	22.6
Sulfation	Abs/.1mm *ASTM D7415 >30	20.2	17.3	7.8

FLUID DEGRADATION

method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.5	11.5	26.6
Base Number (BN)	mg KOH/g ASTM D2896 9.8	10.0	9.4	35.1



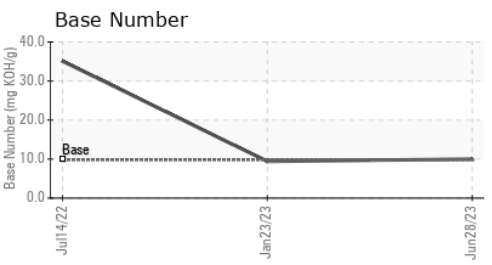
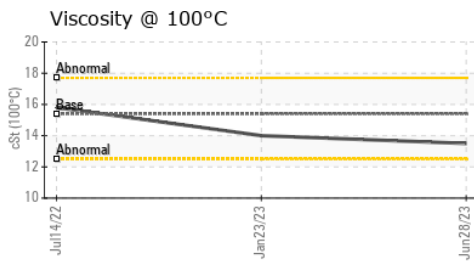
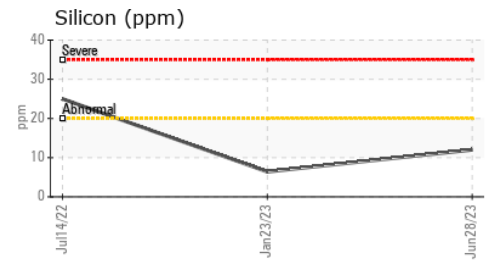
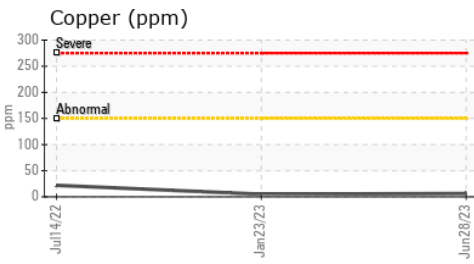
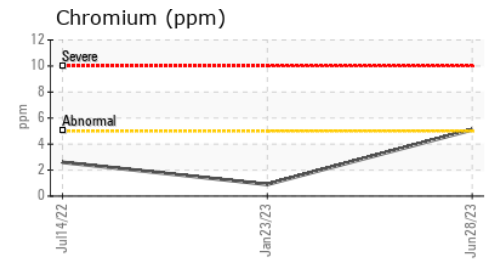
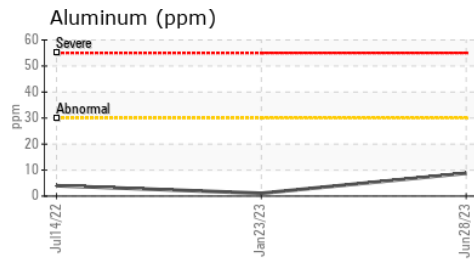
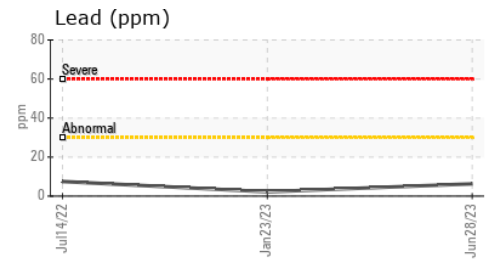
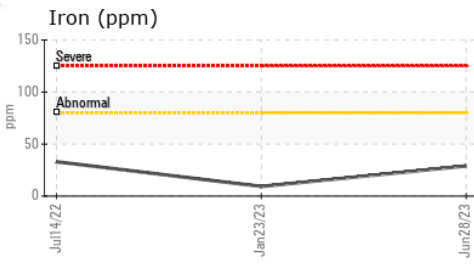
OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history 1	history 2
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	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	14.0

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0015792 **Received** : 03 Jul 2023
Lab Number : 05888813 **Diagnosed** : 06 Jul 2023
Unique Number : 10539296 **Diagnostician** : Angela Borella
Test Package : MOB 2 (Additional Tests: Glycol)

GFL Environmental - 641 - Alpena
 1241 KING SETTLEMENT RD
 ALPENA, MI
 US 49707
 Contact: DYLAN TOLAN
 dylan.tolan@gflenv.com
 T: (989)854-7203
 F:

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)