

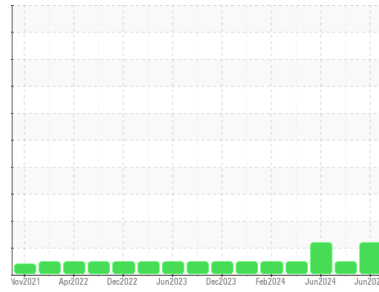


OIL ANALYSIS REPORT



Area
(74789V)
 Machine Id
411043
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



GLYCOL



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

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		GFL0118464	GFL0118471	GFL0118479
Sample Date	Client Info		28 Jun 2024	05 Jun 2024	04 Jun 2024
Machine Age	hrs	Client Info	0	7168	0
Oil Age	hrs	Client Info	0	650	0
Oil Changed	Client Info		Not Chngd	Changed	Not Chngd
Sample Status			ABNORMAL	NORMAL	ABNORMAL

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 D5185m >120	34	12	32
Chromium	ppm	ASTM D5185m >20	1	<1	<1
Nickel	ppm	ASTM D5185m >5	<1	0	<1
Titanium	ppm	ASTM D5185m >2	<1	0	<1
Silver	ppm	ASTM D5185m >2	<1	0	0
Aluminum	ppm	ASTM D5185m >20	9	4	8
Lead	ppm	ASTM D5185m >40	<1	<1	<1
Copper	ppm	ASTM D5185m >330	10	2	11
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	4	0	5
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 60	81	63	74
Manganese	ppm	ASTM D5185m 0	<1	0	<1
Magnesium	ppm	ASTM D5185m 1010	1074	946	949
Calcium	ppm	ASTM D5185m 1070	1242	1084	1125
Phosphorus	ppm	ASTM D5185m 1150	1152	965	1147
Zinc	ppm	ASTM D5185m 1270	1406	1243	1290
Sulfur	ppm	ASTM D5185m 2060	3045	2820	3284

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	10	4	11
Sodium	ppm	ASTM D5185m	59	4	61
Potassium	ppm	ASTM D5185m >20	▲ 51	7	▲ 61
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.7	0.4	0.6
Nitration	Abs/cm	*ASTM D7624 >20	9.3	9.2	9.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.5	21.4	20.5

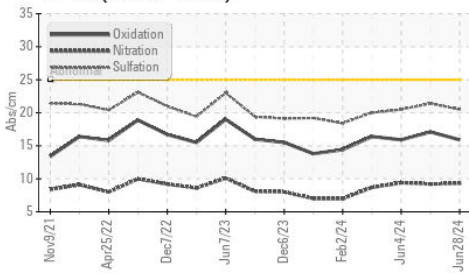
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.9	17.1	15.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.1	5.5	8.1

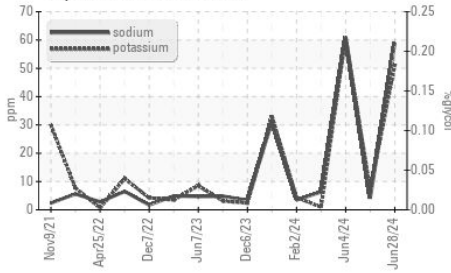


OIL ANALYSIS REPORT

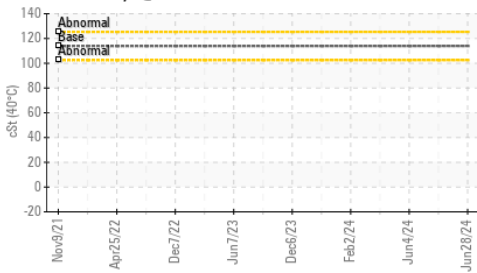
FT-IR (Direct Trend)



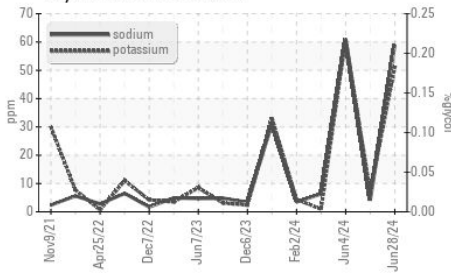
Glycol Contamination



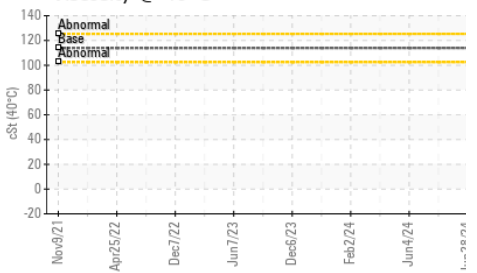
Viscosity @ 40°C



Glycol Contamination



Viscosity @ 40°C

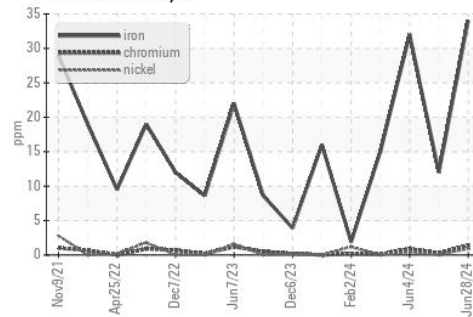


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

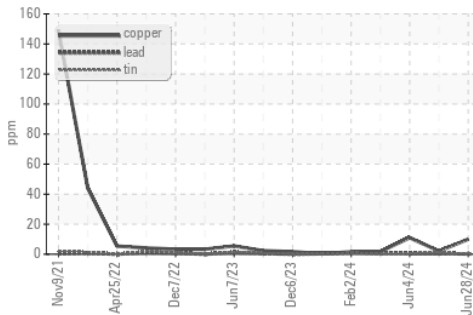
PARAMETER	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.5

GRAPHS

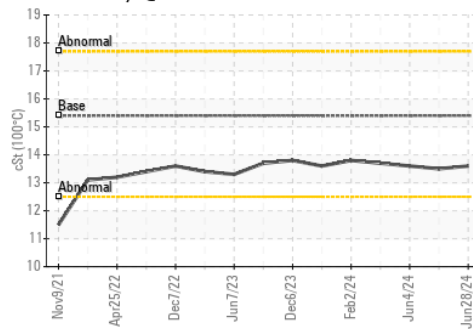
Ferrous Alloys



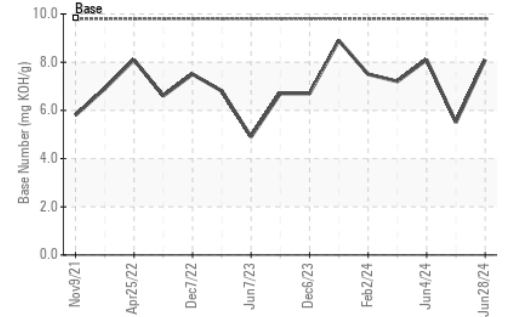
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0118464

Lab Number : 06226079

Unique Number : 11109572

Test Package : FLEET (Additional Tests: Glycol, KV40)

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)

Received : 02 Jul 2024

Tested : 05 Jul 2024

Diagnosed : 05 Jul 2024 - Jonathan Hester

GFL Environmental - 893 - OK East Hauling

2100 Lilly Street

Seminole, OK

US 74868

Contact: Roger Barlow

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