



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
(PG4339)
Machine Id
960T
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0077465	GFL0077446	GFL0083072
Sample Date		Client Info		27 Jun 2024	21 May 2024	02 Nov 2023
Machine Age	hrs	Client Info		4877	0	0
Oil Age	hrs	Client Info		4877	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	27	49	29
Chromium	ppm	ASTM D5185m	>5	0	4	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	6	29	8
Lead	ppm	ASTM D5185m	>30	<1	<1	14
Copper	ppm	ASTM D5185m	>150	1	7	1
Tin	ppm	ASTM D5185m	>5	<1	1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Light concentration of carbon/soot present in the oil.

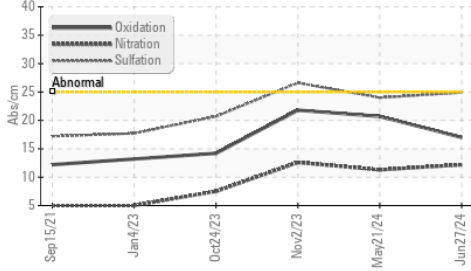
Silicon	ppm	ASTM D5185m	>20	8	7	11
Potassium	ppm	ASTM D5185m	>20	<1	19	0
Fuel	%	ASTM D3524	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	▲ 3.1	0.9	1.1
Nitration	Abs/cm	*ASTM D7624	>20	12.2	11.3	12.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.9	24.0	26.6
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

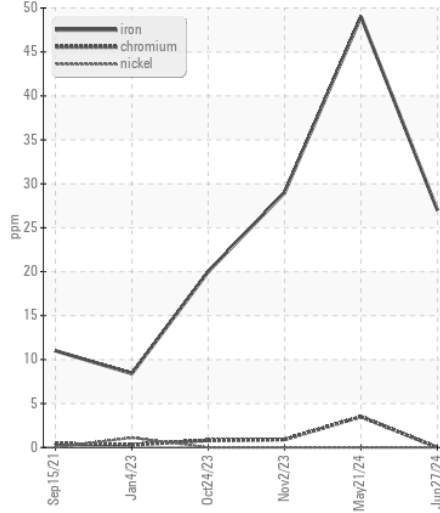
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		2	6	1
Boron	ppm	ASTM D5185m	0	6	4	17
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	63	61	66
Manganese	ppm	ASTM D5185m	0	<1	1	<1
Magnesium	ppm	ASTM D5185m	1010	966	899	554
Calcium	ppm	ASTM D5185m	1070	1050	1045	1623
Phosphorus	ppm	ASTM D5185m	1150	1044	970	997
Zinc	ppm	ASTM D5185m	1270	1260	1203	1304
Sulfur	ppm	ASTM D5185m	2060	3384	2719	2929
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.0	20.7	21.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.8	5.2	6.9
Visc @ 100°C	cSt	ASTM D445	15.4	14.8	13.8	14.0

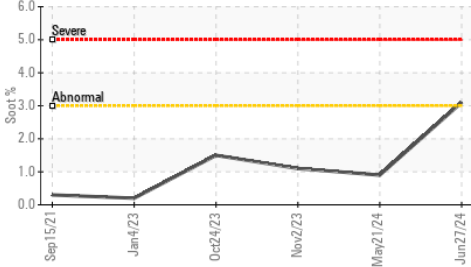
▲ FT-IR (Direct Trend)



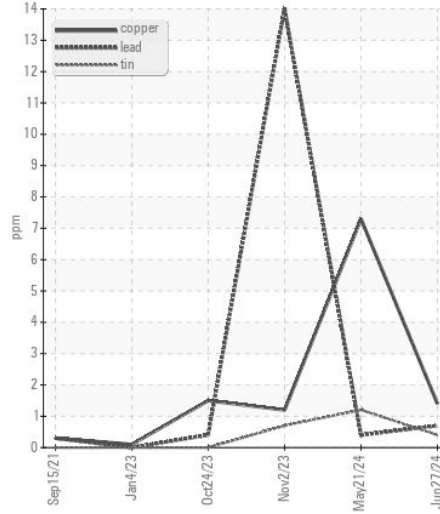
Ferrous Alloys



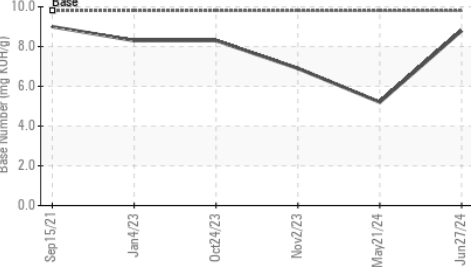
▲ Soot %



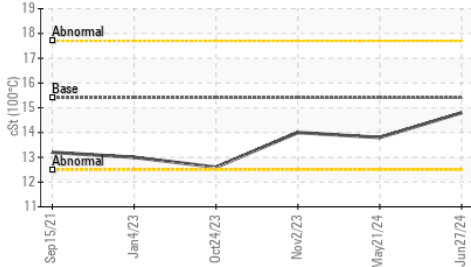
Non-ferrous Metals



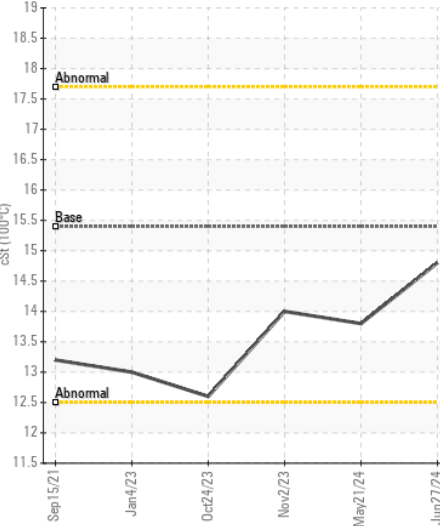
Base Number



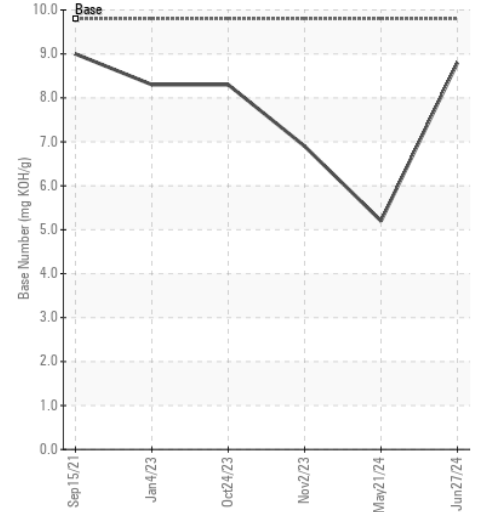
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0077465 **Received** : 05 Jul 2024
Lab Number : 06228274 **Tested** : 08 Jul 2024
Unique Number : 11111767 **Diagnosed** : 08 Jul 2024 - Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution)

GFL Environmental - 072 - Americus - Transwaste
 361 McMath Mill Road
 Americus, GA
 US 31719
 Contact: RICHARD HEINZERLING
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 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)