



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

(14KM4A)

Machine Id

928088-260340

Component

Diesel Engine

Fluid

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

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0104966	GFL0108138	GFL0102407
Sample Date		Client Info		20 Jun 2024	25 Jan 2024	07 Dec 2023
Machine Age	hrs	Client Info		0	0	13867
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	Changed
Filter Changed		Client Info		N/A	Not Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	6	12	3
Chromium	ppm	ASTM D5185m	>5	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	2	2
Lead	ppm	ASTM D5185m	>25	0	<1	<1
Copper	ppm	ASTM D5185m	>100	0	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

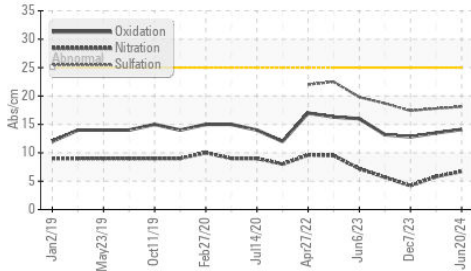
Silicon	ppm	ASTM D5185m	>25	5	6	5
Potassium	ppm	ASTM D5185m	>20	7	2	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.3	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.7	5.8	4.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.1	17.8	17.4
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

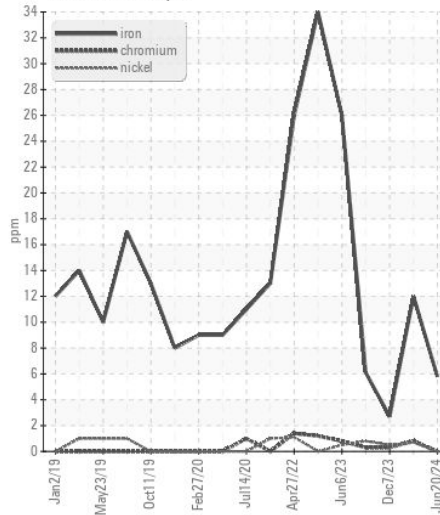
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		31	0	2
Boron	ppm	ASTM D5185m	0	4	<1	1
Barium	ppm	ASTM D5185m	0	<1	0	12
Molybdenum	ppm	ASTM D5185m	60	59	59	55
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	992	951	872
Calcium	ppm	ASTM D5185m	1070	1098	955	963
Phosphorus	ppm	ASTM D5185m	1150	1166	910	981
Zinc	ppm	ASTM D5185m	1270	1350	1233	1128
Sulfur	ppm	ASTM D5185m	2060	3898	2771	3483
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.1	13.5	12.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.3	8.8	9.3
Visc @ 100°C	cSt	ASTM D445	15.4	13.1	13.4	14.5

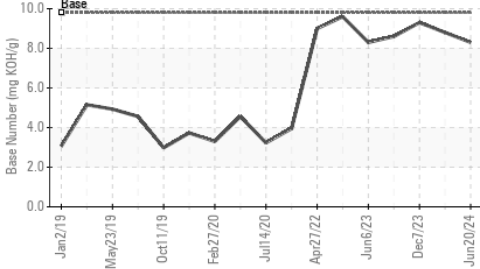
FT-IR (Direct Trend)



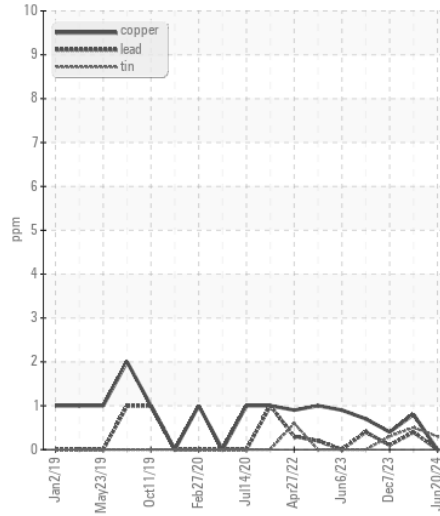
Ferrous Alloys



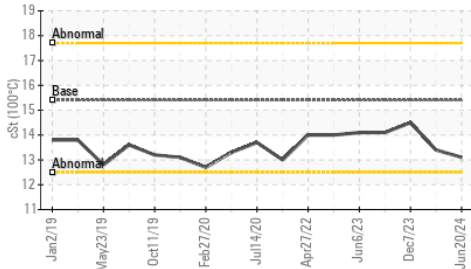
Base Number



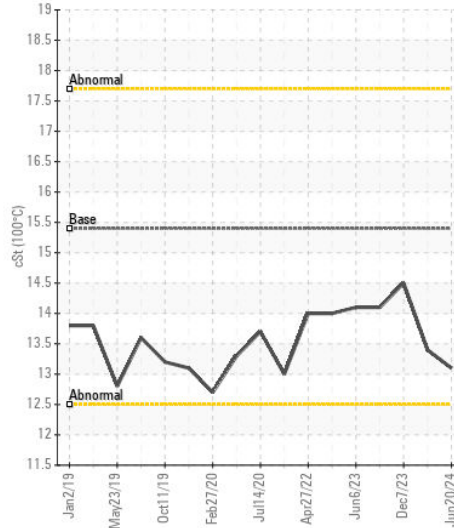
Non-ferrous Metals



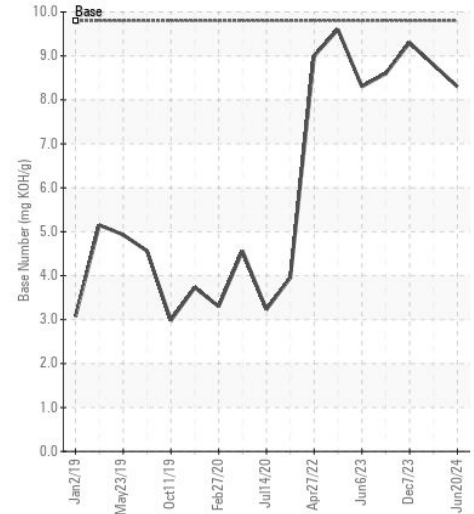
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0104966
Lab Number : 06216616
Unique Number : 11089480
Test Package : FLEET

Received : 21 Jun 2024
Tested : 24 Jun 2024
Diagnosed : 24 Jun 2024 - Wes Davis

GFL Environmental - 820 - Joplin Hauling
 3700 West 7th Street
 Joplin, MO
 US 64801

Contact: James Jarrett
 jjarrett@gflenv.com

T: (417)310-2802

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)