



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
427172 - SW4710
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: Engine)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0123554	GFL0112099	GFL0105499
Sample Date		Client Info		28 Jun 2024	19 Mar 2024	09 Jan 2024
Machine Age	mls	Client Info		359445	350725	342891
Oil Age	mls	Client Info		359445	350725	342891
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	16	9	5
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	1	<1	<1
Lead	ppm	ASTM D5185m	>40	2	2	3
Copper	ppm	ASTM D5185m	>330	2	0	<1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	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.

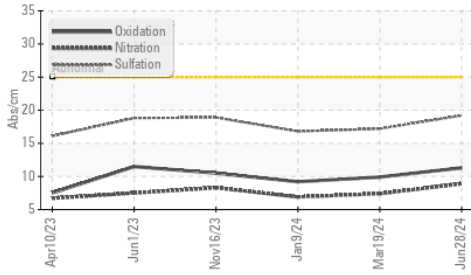
Silicon	ppm	ASTM D5185m	>25	6	6	7
Potassium	ppm	ASTM D5185m	>20	<1	<1	1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.9	7.4	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	17.2	16.8
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

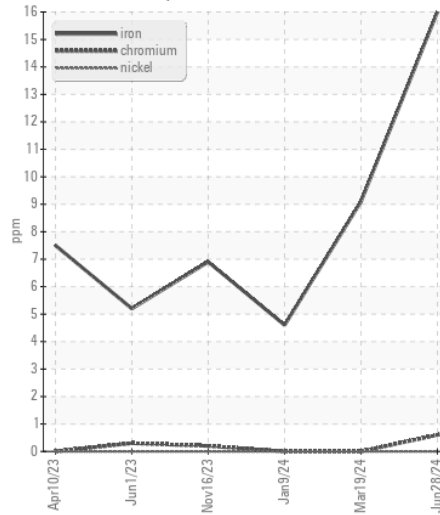
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		6	<1	1
Boron	ppm	ASTM D5185m	0	10	0	0
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	52	53	57
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	1010	24	8	12
Calcium	ppm	ASTM D5185m	1070	2543	2734	2559
Phosphorus	ppm	ASTM D5185m	1150	1022	1199	1173
Zinc	ppm	ASTM D5185m	1270	1199	1428	1355
Sulfur	ppm	ASTM D5185m	2060	3216	4130	3356
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.3	9.9	9.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	6.6	7.1	7.6
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	13.3	13.2

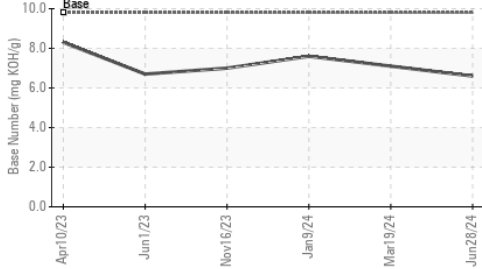
FT-IR (Direct Trend)



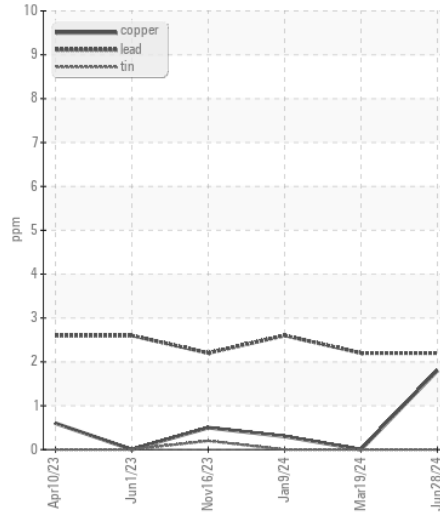
Ferrous Alloys



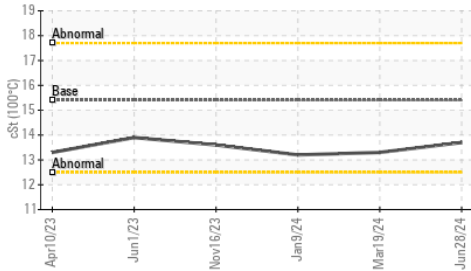
Base Number



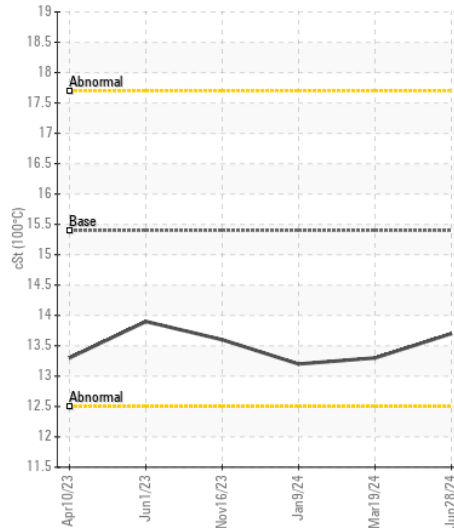
Non-ferrous Metals



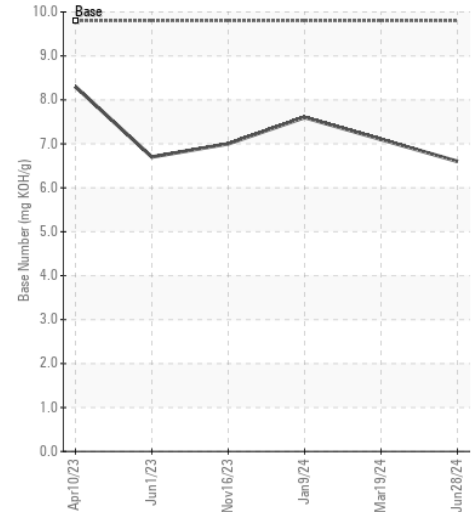
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : GFL0123554

Lab Number : 06228330

Unique Number : 11111823

Test Package : FLEET

Received : 05 Jul 2024

Tested : 08 Jul 2024

Diagnosed : 08 Jul 2024 - Don Baldrige

GFL Environmental - 983 - Sugar Land Hauling

16011 West Belfort Street

Sugar Land, TX

US 77498

Contact: Adrian Martinez

adrianmartinez@gflenv.com

T:

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)