



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
426040-719
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0116296	GFL0100014	GFL0101620
Sample Date		Client Info		21 May 2024	18 Mar 2024	21 Feb 2024
Machine Age	hrs	Client Info		9970	9744	9662
Oil Age	hrs	Client Info		379	500	9587
Filter Age	hrs	Client Info		379	500	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	60	48	32
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	16	13	10
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	4	4	3
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
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.

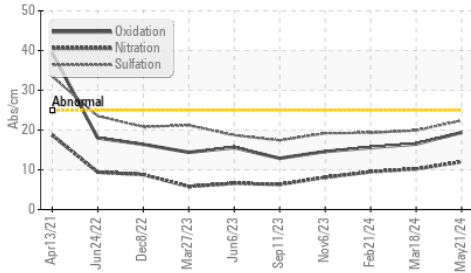
Silicon	ppm	ASTM D5185m	>25	7	7	5
Potassium	ppm	ASTM D5185m	>20	30	27	15
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.4	1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	12.0	10.2	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	19.9	19.3
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

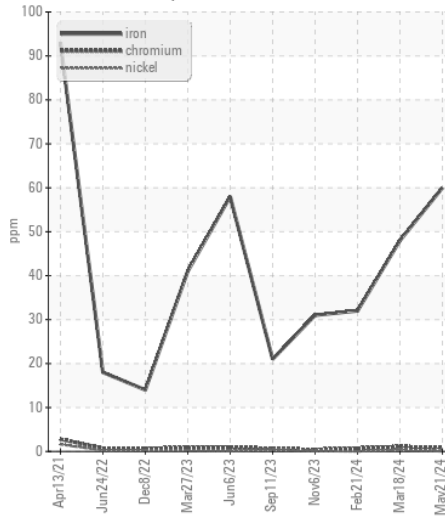
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		6	6	0
Boron	ppm	ASTM D5185m	0	10	6	2
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	62	65	56
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	913	935	816
Calcium	ppm	ASTM D5185m	1070	1073	1139	944
Phosphorus	ppm	ASTM D5185m	1150	976	1067	870
Zinc	ppm	ASTM D5185m	1270	1188	1249	1102
Sulfur	ppm	ASTM D5185m	2060	3074	2962	2574
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	16.5	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.0	8.1	8.7
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.2	13.0

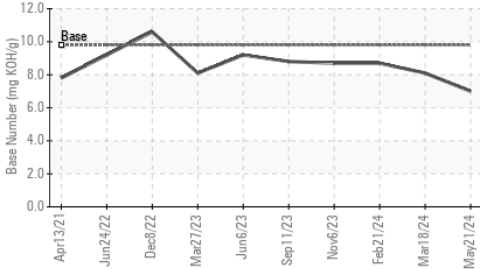
FT-IR (Direct Trend)



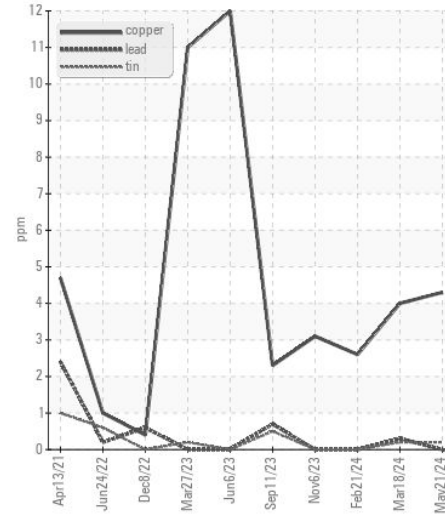
Ferrous Alloys



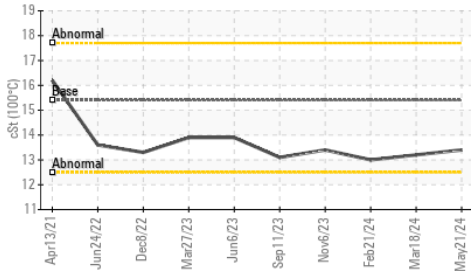
Base Number



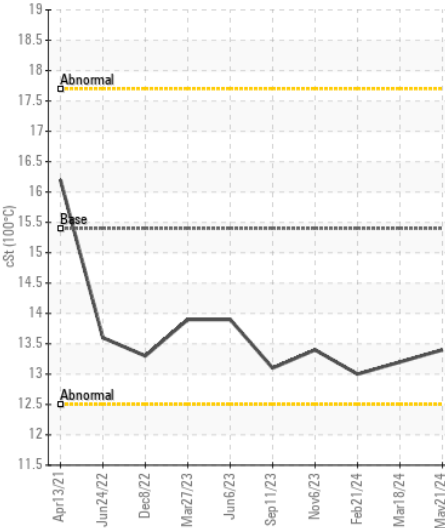
Non-ferrous Metals



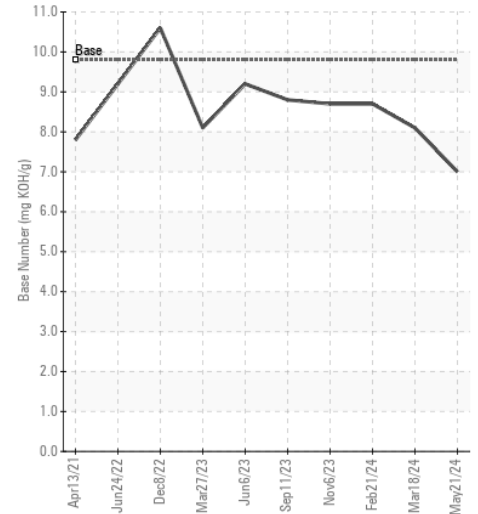
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0116296
Lab Number : 06191621
Unique Number : 11048373
Test Package : FLEET

Received : 24 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 2024 - Angela Borella

GFL Environmental - 625 - Harrison Hauling
 2480 S Clare Ave
 Clare, MI
 US 48617

Contact: RON TROJANEK
 ront@northern1.com

T: (231)624-0372

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)