



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
928075-205272

Component
Diesel Engine

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

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0099272	GFL0080052	GFL0069437
Sample Date		Client Info		19 Jan 2024	04 Oct 2023	11 Jan 2023
Machine Age	hrs	Client Info		12255	12234	11951
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	▲ 106	88	46
Chromium	ppm	ASTM D5185m	>20	3	3	2
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	45	6
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	<1	17	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<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.

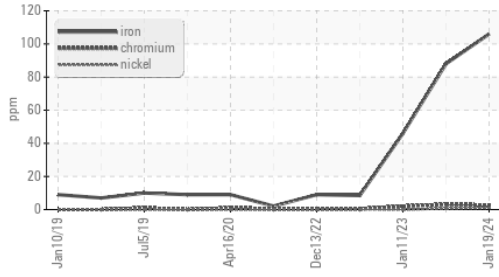
Silicon	ppm	ASTM D5185m	>25	8	12	16
Potassium	ppm	ASTM D5185m	>20	2	98	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	1.1	1.7
Nitration	Abs/cm	*ASTM D7624	>20	5.5	13.6	11.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.7	28.6	22.8
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

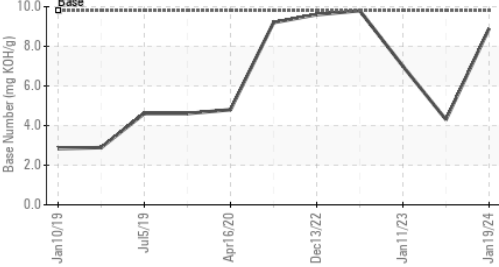
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	4	3
Boron	ppm	ASTM D5185m	0	6	5	<1
Barium	ppm	ASTM D5185m	0	0	12	0
Molybdenum	ppm	ASTM D5185m	60	49	35	61
Manganese	ppm	ASTM D5185m	0	1	3	<1
Magnesium	ppm	ASTM D5185m	1010	978	920	903
Calcium	ppm	ASTM D5185m	1070	986	1298	1128
Phosphorus	ppm	ASTM D5185m	1150	983	908	1013
Zinc	ppm	ASTM D5185m	1270	1161	1128	1247
Sulfur	ppm	ASTM D5185m	2060	2853	2820	2812
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.7	25.5	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.9	4.3	7.0
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	14.2	14.1

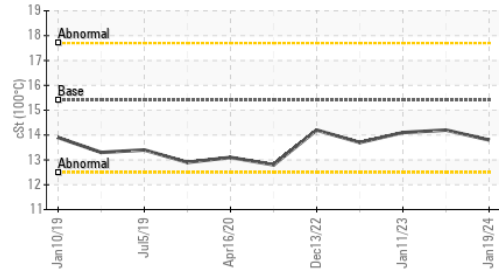
▲ Ferrous Alloys



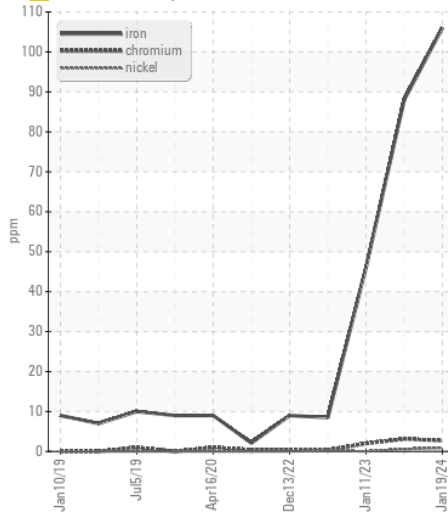
Base Number



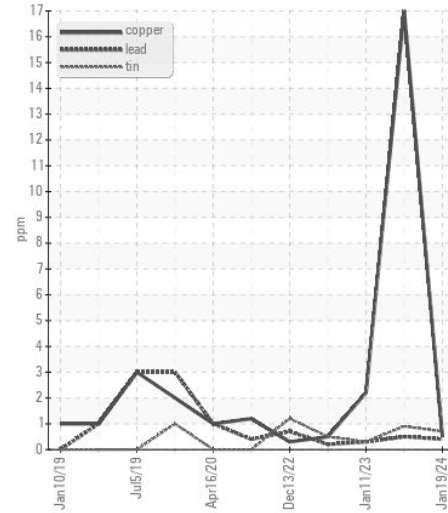
Viscosity @ 100°C



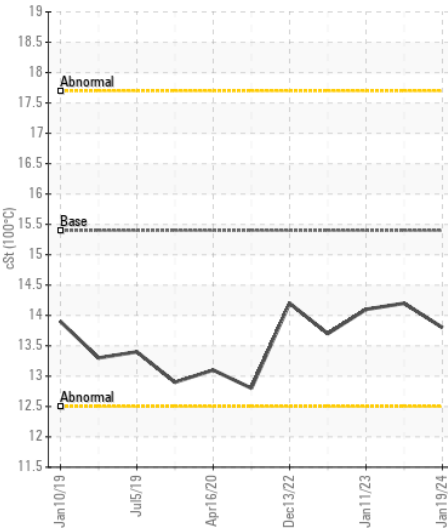
▲ Ferrous Alloys



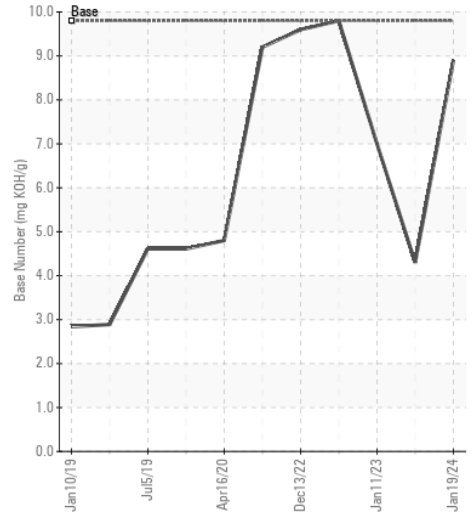
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0099272 **Received** : 31 Jan 2024
Lab Number : 06076318 **Diagnosed** : 02 Feb 2024
Unique Number : 10858409 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 844 - Princeton Hauling
 10129 Highway 62 West
 Princeton, KY
 US 42445

Contact: ROBERT THIBAUT
 robert.thibault@gflenv.com
 T: (931)237-6045

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)

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