FLEET LUBE 360 OIL DIAGNOSTICS

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
10564
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (11 GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

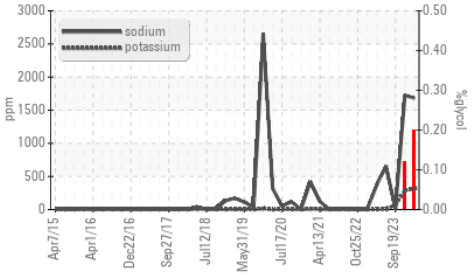
Sodium and/or potassium levels are high. Test for glycol is positive. Elemental level of silicon (Si) above normal indicating ingress of seal material.

FLUID CONDITION

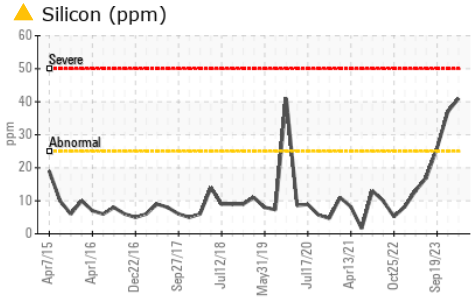
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0072053	GFL0072064	GFL0092461
Sample Date		Client Info		12 Feb 2024	17 Jan 2024	19 Sep 2023
Machine Age	hrs	Client Info		22188	22165	21513
Oil Age	hrs	Client Info		600	600	564
Filter Age	hrs	Client Info		600	600	564
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				SEVERE	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>75	21	16	▲ 110
Chromium	ppm	ASTM D5185m	>5	1	1	2
Nickel	ppm	ASTM D5185m	>4	0	0	1
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	5	4	▲ 25
Lead	ppm	ASTM D5185m	>25	0	0	7
Copper	ppm	ASTM D5185m	>100	4	4	▲ 203
Tin	ppm	ASTM D5185m	>4	<1	<1	▲ 10
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	▲ 41	▲ 37	▲ 26
Potassium	ppm	ASTM D5185m	>20	▲ 314	▲ 288	71
Fuel		WC Method	>3.0	<1.0	<1.0	0.9
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		⬢ 0.20	⬢ 0.12	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	11.8	11.6	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.0	19.9	22.7
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
Sodium	ppm	ASTM D5185m		▲ 1682	▲ 1726	6
Boron	ppm	ASTM D5185m	0	66	59	12
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	139	130	110
Manganese	ppm	ASTM D5185m	0	<1	<1	5
Magnesium	ppm	ASTM D5185m	1010	604	576	838
Calcium	ppm	ASTM D5185m	1070	732	661	1527
Phosphorus	ppm	ASTM D5185m	1150	716	726	846
Zinc	ppm	ASTM D5185m	1270	878	848	1059
Sulfur	ppm	ASTM D5185m	2060	2173	2088	2660
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.1	13.0	15.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	12.1	11.9	5.1
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 11.5	▲ 11.4	▲ 10.5

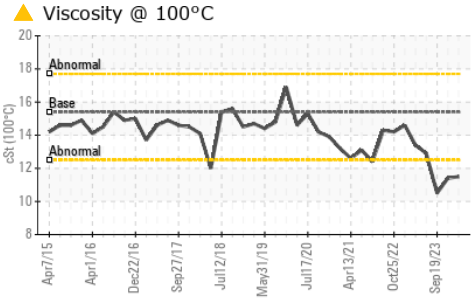
Glycol Contamination



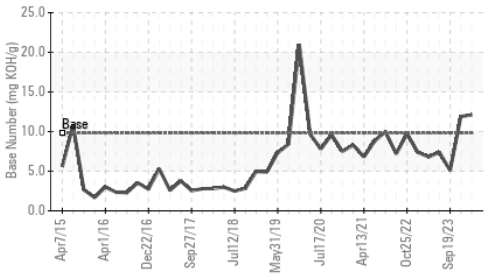
Silicon (ppm)



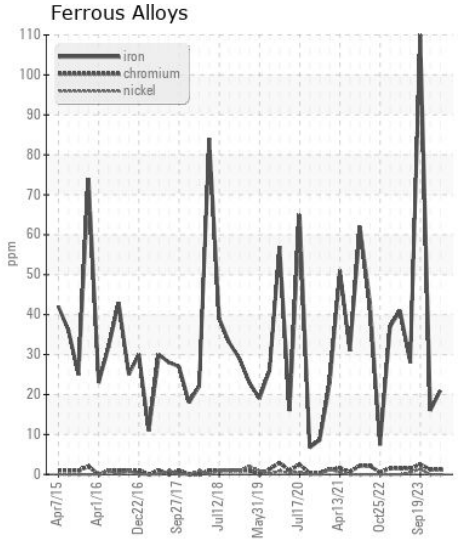
Viscosity @ 100°C



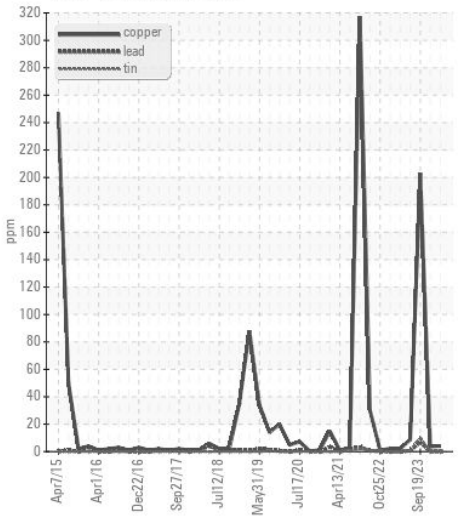
Base Number



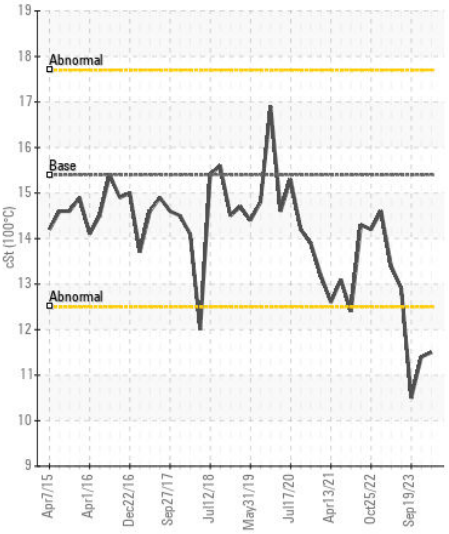
Ferrous Alloys



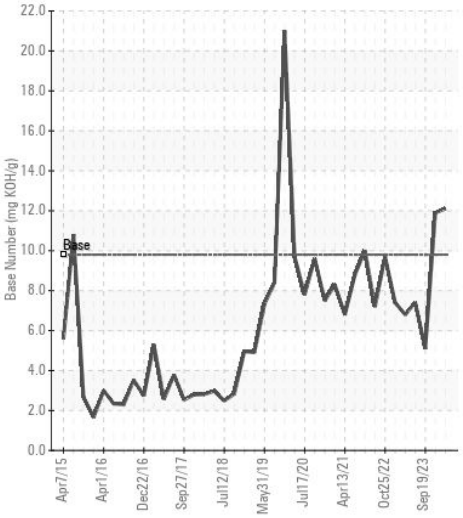
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0072053
Lab Number : 06098925
Unique Number : 10897155
Test Package : FLEET

Received : 23 Feb 2024
Tested : 26 Feb 2024
Diagnosed : 26 Feb 2024 - Don Baldridge

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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