FLEET LUBE 360 OIL DIAGNOSTICS

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area
(MN2066)
Machine Id
2540
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

WEAR

All component wear rates are normal.

CONTAMINATION

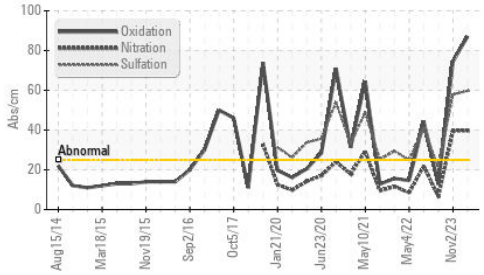
There is an abnormal amount of solids and carbon present in the oil.

FLUID CONDITION

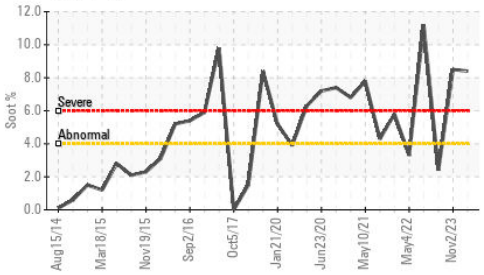
The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**GFL0104076**	GFL0068124	GFL0068154
Sample Date		Client Info		**11 Apr 2024**	02 Nov 2023	05 Apr 2023
Machine Age	hrs	Client Info		**32987**	32405	31871
Oil Age	hrs	Client Info		**600**	600	600
Filter Age	hrs	Client Info		**600**	600	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	NORMAL
Iron	ppm	ASTM D5185m	>120	**61**	74	11
Chromium	ppm	ASTM D5185m	>20	**2**	3	<1
Nickel	ppm	ASTM D5185m	>5	**0**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	4	0
Lead	ppm	ASTM D5185m	>40	**3**	4	<1
Copper	ppm	ASTM D5185m	>330	**0**	5	<1
Tin	ppm	ASTM D5185m	>15	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	**7**	14	5
Potassium	ppm	ASTM D5185m	>20	**1**	9	2
Fuel	%	ASTM D3524	>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	>4	▲ **8.4**	▲ 8.5	2.4
Nitration	Abs/cm	*ASTM D7624	>20	**39.7**	39.6	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**59.7**	57.9	21.4
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
Sodium	ppm	ASTM D5185m		**14**	30	5
Boron	ppm	ASTM D5185m	0	**11**	8	13
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**59**	54	55
Manganese	ppm	ASTM D5185m	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**766**	842	801
Calcium	ppm	ASTM D5185m	1070	**1050**	970	989
Phosphorus	ppm	ASTM D5185m	1150	**855**	874	916
Zinc	ppm	ASTM D5185m	1270	**1004**	1069	1065
Sulfur	ppm	ASTM D5185m	2060	**2682**	2607	2616
Oxidation	Abs/.1mm	*ASTM D7414	>25	**87.1**	74.5	12.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **0.0**	▲ -20.6	8.8
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **46.1**	▲ 31.3	14.3

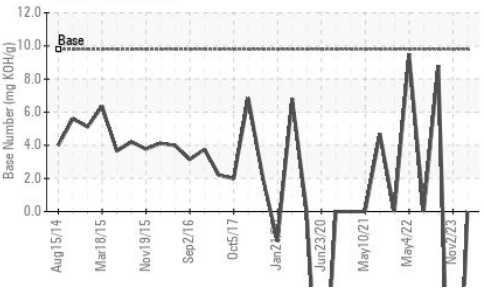
FT-IR (Direct Trend)



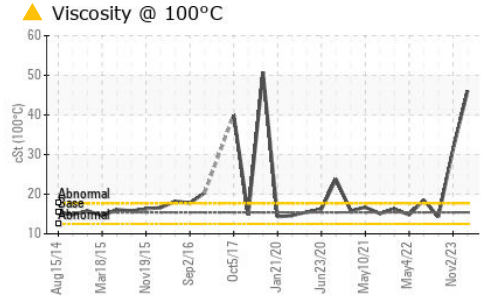
Soot %



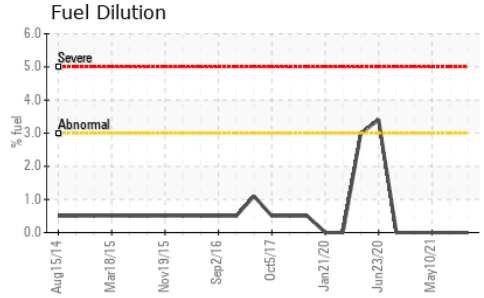
Base Number



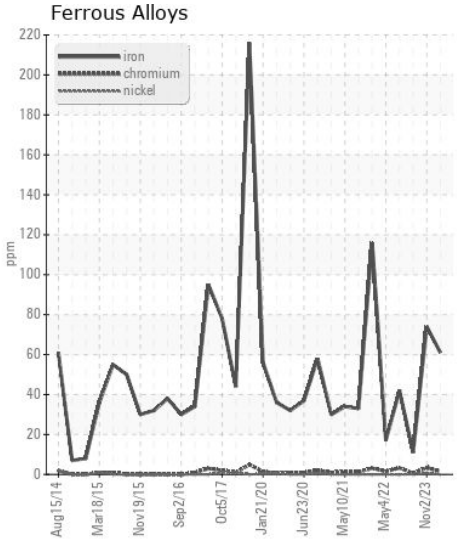
Viscosity @ 100°C



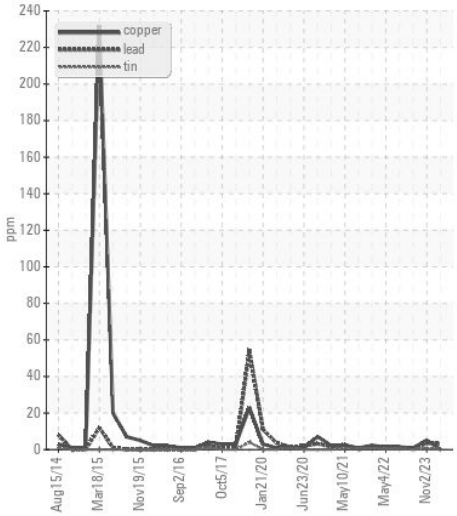
Fuel Dilution



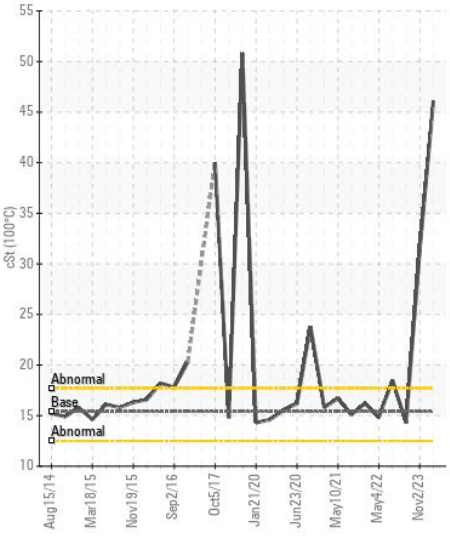
Ferrous Alloys



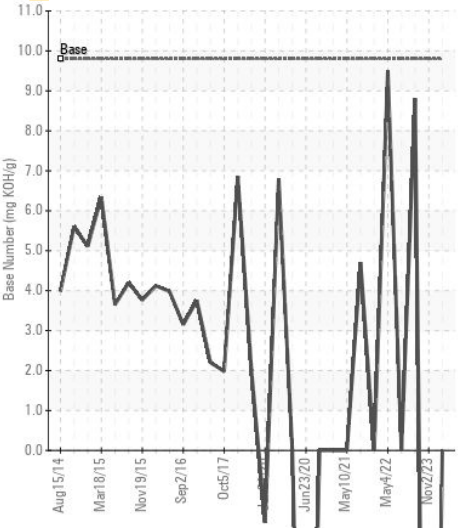
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0104076
Lab Number : 06148284
Unique Number : 10978362
Test Package : FLEET (Additional Tests: FuelDilution)

Received : 15 Apr 2024
Tested : 16 Apr 2024
Diagnosed : 17 Apr 2024 - Sean Felton

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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