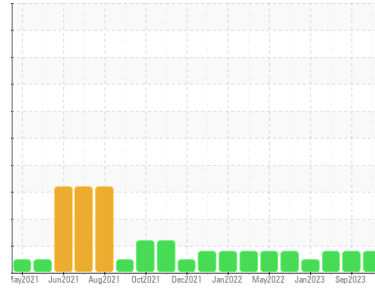


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
(YA163839)

Machine Id
910028

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON GEO LD 15W40 (36 QTS)

DIAGNOSIS

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.

Wear

The aluminum level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PCA0113420	PCA0101725	PCA0077282
Sample Date	Client Info	13 Feb 2024	05 Sep 2023	19 Apr 2023
Machine Age	hrs	5910	4802	3614
Oil Age	hrs	1108	1188	624
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.1	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >50	8	12	7
Chromium	ppm ASTM D5185m >4	1	2	<1
Nickel	ppm ASTM D5185m >2	0	0	0
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >9	▲ 19	▲ 67	▲ 47
Lead	ppm ASTM D5185m >30	2	11	0
Copper	ppm ASTM D5185m >35	2	4	2
Tin	ppm ASTM D5185m >4	<1	<1	0
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 50	11	7	10
Barium	ppm ASTM D5185m 5	0	0	0
Molybdenum	ppm ASTM D5185m 50	52	57	38
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 560	585	665	411
Calcium	ppm ASTM D5185m 1510	1623	2071	1191
Phosphorus	ppm ASTM D5185m 780	769	837	546
Zinc	ppm ASTM D5185m 870	1031	1082	717
Sulfur	ppm ASTM D5185m 2040	2619	3322	2605

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+100	8	17	13
Sodium	ppm ASTM D5185m	4	9	4
Potassium	ppm ASTM D5185m >20	0	0	0

INFRA-RED

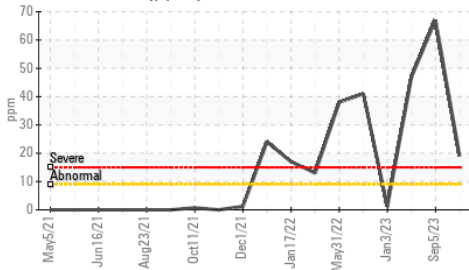
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm *ASTM D7624 >20	12.3	11.8	9.5
Sulfation	Abs/.1mm *ASTM D7415 >30	24.4	25.8	20.7

FLUID DEGRADATION

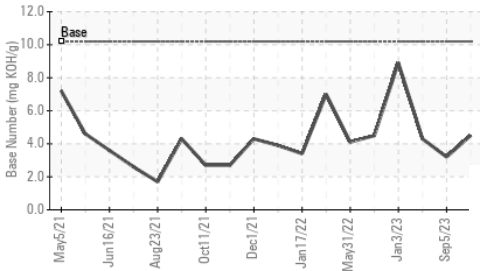
method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	19.9	22.3	15.9
Base Number (BN)	mg KOH/g ASTM D2896 10.2	4.5	3.2	4.3

OIL ANALYSIS REPORT

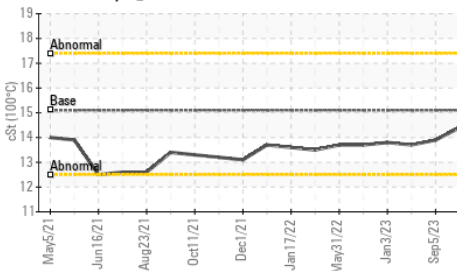
▲ Aluminum (ppm)



Base Number



Viscosity @ 100°C

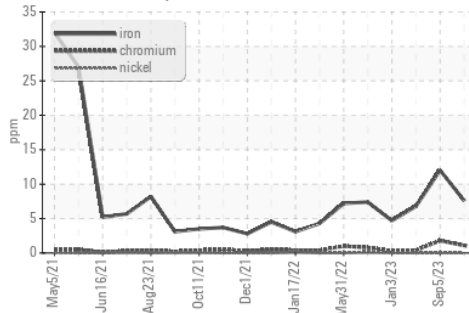


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

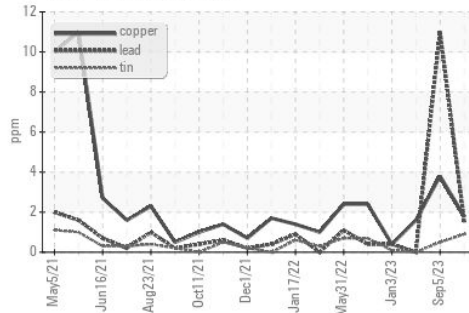
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.4	13.9

GRAPHS

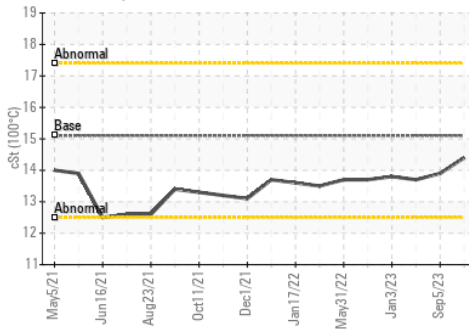
Ferrous Alloys



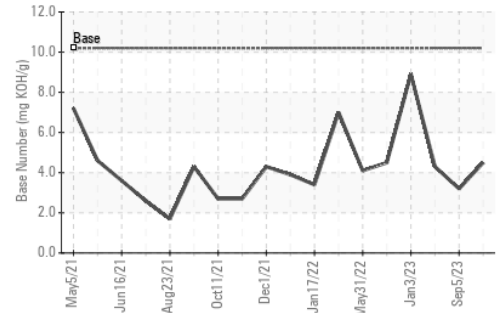
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0113420
Lab Number : 06089885
Unique Number : 10882738
Test Package : FLEET

Received : 15 Feb 2024
Tested : 16 Feb 2024
Diagnosed : 16 Feb 2024 - Sean Felton

GFL Environmental - 002 - Vance-Granville
 241 Vanco Mill Rd
 Henderson, NC
 US 27537

Contact: Cameron King
 cameron.king@gflenv.com
 T: (252)438-5333
 F: (252)431-1635

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)