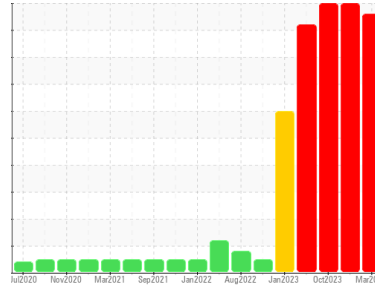


OIL ANALYSIS REPORT



Area
G.LOPES CONSTRUCTION INC./On-Road
 Machine Id
316
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



GLYCOL



DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Test for glycol is positive. Light fuel dilution occurring. There is a high concentration of glycol present in the oil.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0109543	PCA0109657	PCA0104594
Sample Date	Client Info		06 Mar 2024	02 Jan 2024	11 Oct 2023
Machine Age	mls	Client Info	66500	66500	66500
Oil Age	mls	Client Info	4933	4933	4933
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			SEVERE	SEVERE	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>120	6	22	19
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	0	<1	2
Lead	ppm	ASTM D5185m	>40	4	10	8
Copper	ppm	ASTM D5185m	>330	224	509	395
Tin	ppm	ASTM D5185m	>15	1	2	1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	22	6	7
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	67	87	71
Manganese	ppm	ASTM D5185m	0	0	<1	<1
Magnesium	ppm	ASTM D5185m	1010	309	616	752
Calcium	ppm	ASTM D5185m	1070	377	868	946
Phosphorus	ppm	ASTM D5185m	1150	405	841	890
Zinc	ppm	ASTM D5185m	1270	418	909	1078
Sulfur	ppm	ASTM D5185m	2060	1173	2438	2961

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	9	9	7
Sodium	ppm	ASTM D5185m		1057	1094	568
Potassium	ppm	ASTM D5185m	>20	757	824	409
Fuel	%	ASTM D3524	>3.0	4.3	7.0	7.0
Glycol	%	*ASTM D2982		0.20	0.12	0.10

INFRA-RED

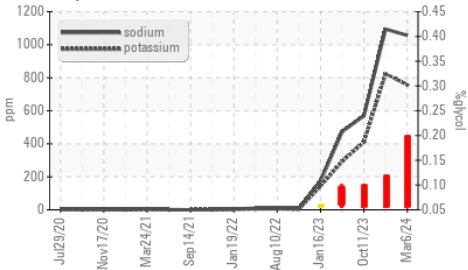
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>4	0.3	1.1	1.9
Nitration	Abs/cm	*ASTM D7624	>20	18.6	14.2	11.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.2	21.5	22.7

FLUID DEGRADATION

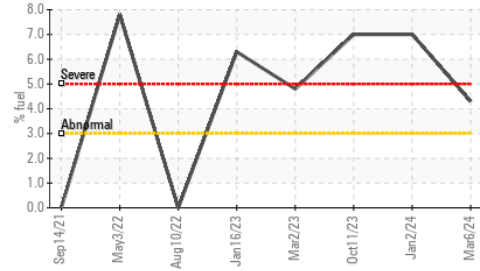
	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.3	18.4	16.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	16.16	10.47	10.20

OIL ANALYSIS REPORT

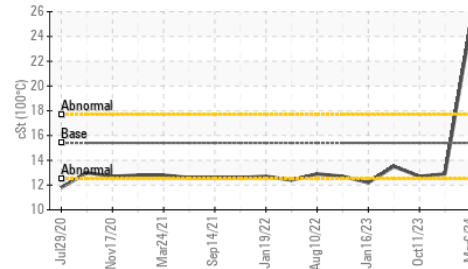
▲ Glycol Contamination



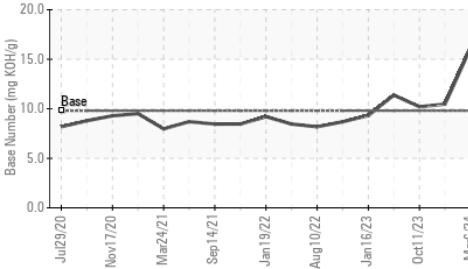
▲ Fuel Dilution



▲ Viscosity @ 100°C



Base Number



VISUAL

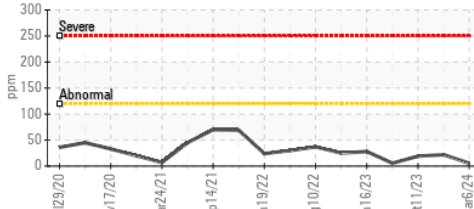
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES

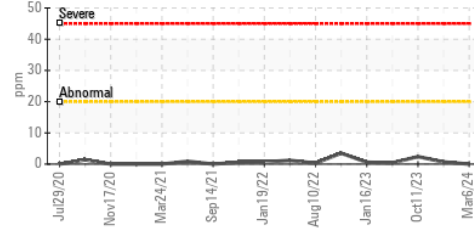
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ 24.9	12.9	12.7

GRAPHS

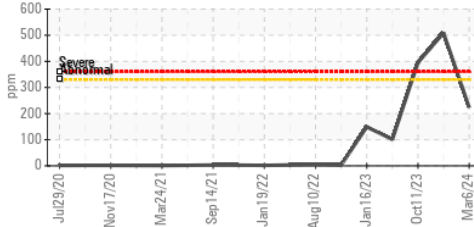
Iron (ppm)



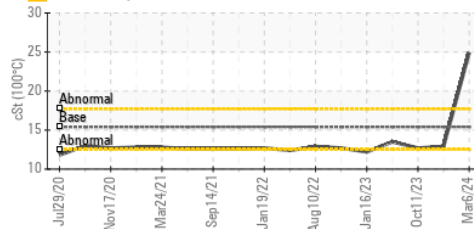
Aluminum (ppm)



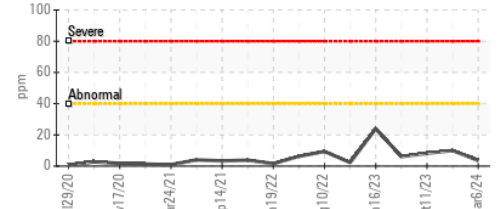
Copper (ppm)



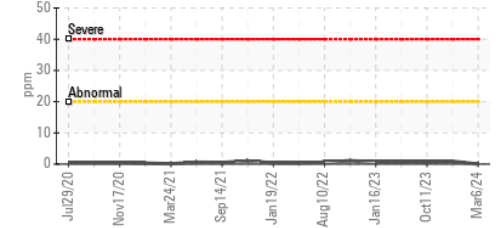
Viscosity @ 100°C



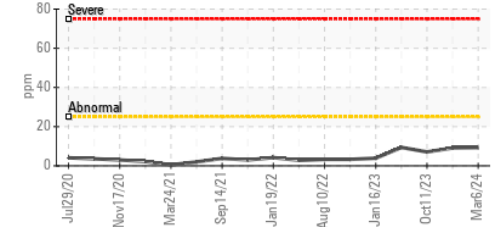
Lead (ppm)



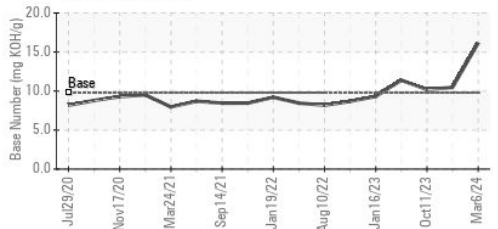
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0109543 **Received** : 11 Mar 2024
Lab Number : 06115446 **Tested** : 13 Mar 2024
Unique Number : 10924279 **Diagnosed** : 13 Mar 2024 - Don Baldrige
Test Package : MOB 2 (Additional Tests: PercentFuel)

G LOPES CONSTRUCTION
 565 WINTHROP ST
 TAUNTON, MA
 US 02780
 Contact: BUTCH MCGRATH
 bm McGrath@glopes.com

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)

T:
F: