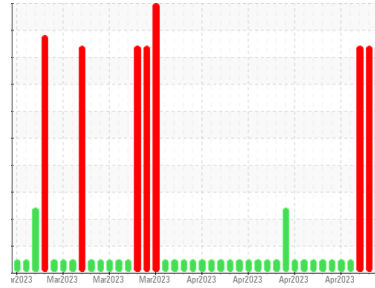




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
WCLSNC
 Machine Id
QC DE NC 08012022
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0817113	WC0817112	WC0817111
Sample Date	Client Info			04 May 2023	03 May 2023	02 May 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				SEVERE	SEVERE	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		16	15	15
Iron	ppm	ASTM D5185m		9	9	11
Chromium	ppm	ASTM D5185m		2	1	2
Nickel	ppm	ASTM D5185m		<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		2	0	0
Lead	ppm	ASTM D5185m		1	4	4
Copper	ppm	ASTM D5185m		<1	<1	<1
Tin	ppm	ASTM D5185m		<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		38	33	37
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		95	94	92
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		564	493	501
Calcium	ppm	ASTM D5185m		1601	1551	1488
Phosphorus	ppm	ASTM D5185m		735	688	677
Zinc	ppm	ASTM D5185m		985	933	907
Sulfur	ppm	ASTM D5185m		3211	2612	2545

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m		28	26	28
Sodium	ppm	ASTM D5185m		▲ 1395	▲ 1530	▲ 1460
Potassium	ppm	ASTM D5185m		▲ 8	▲ 8	▲ 8
Fuel	%	ASTM D3524		0.2	<1.0	0.3
Glycol	%	*ASTM D2982		● 0.12	● 0.12	● 0.10

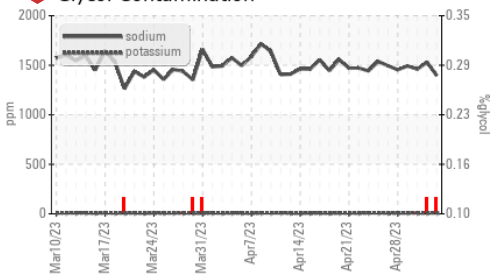
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0	0	0
Nitration	Abs/cm	*ASTM D7624		10.8	10.9	10.9
Sulfation	Abs/.1mm	*ASTM D7415		20.3	20.4	20.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414		16.0	16.1	16.1
Acid Number (AN)	mg KOH/g	ASTM D8045		0.853	0.801	0.964
Base Number (BN)	mg KOH/g	ASTM D2896		11.82	11.17	12.43

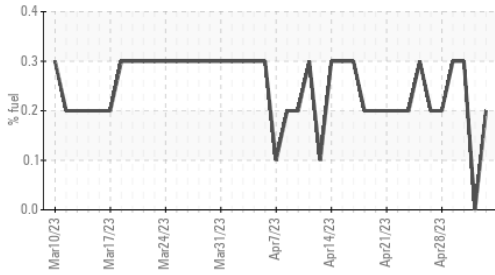


OIL ANALYSIS REPORT

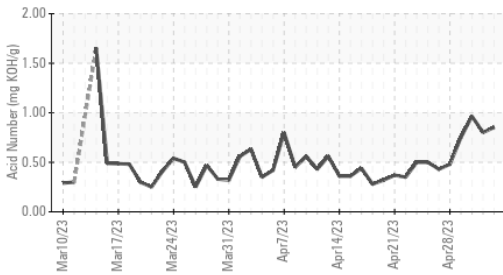
Glycol Contamination



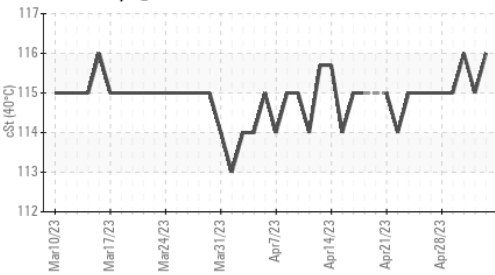
Fuel Dilution



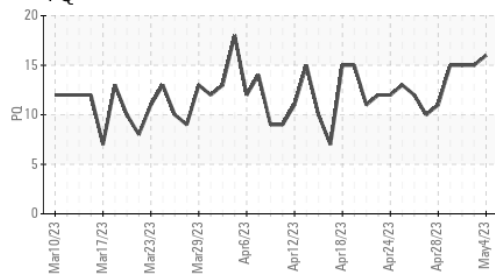
Acid Number



Viscosity @ 40°C



PQ



VISUAL

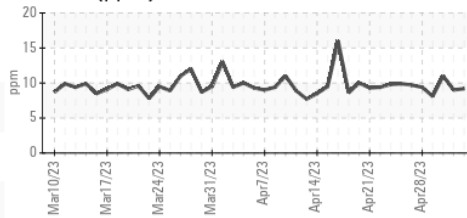
method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

FLUID PROPERTIES

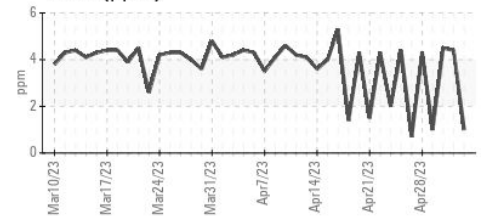
method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	116	115	116
Visc @ 100°C	cSt	ASTM D445	14.7	14.7	14.6
Viscosity Index (VI)	Scale	ASTM D2270	129	131	128

GRAPHS

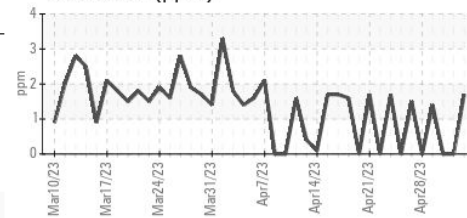
Iron (ppm)



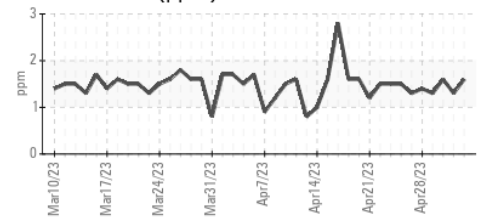
Lead (ppm)



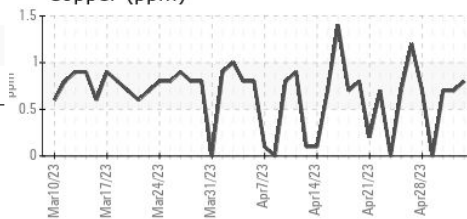
Aluminum (ppm)



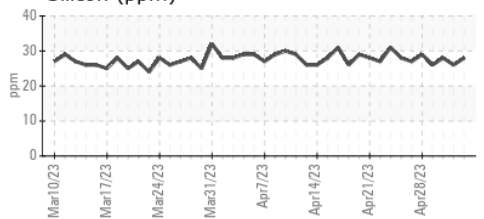
Chromium (ppm)



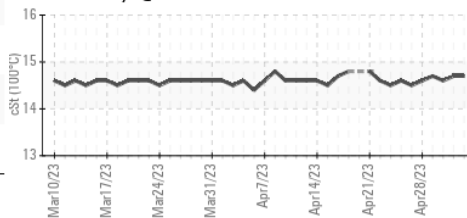
Copper (ppm)



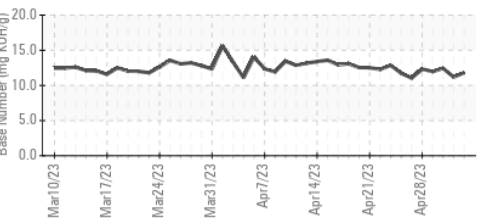
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0817113 **Received** : 04 May 2023
Lab Number : 05837941 **Diagnosed** : 02 Oct 2023
Unique Number : 10456744 **Diagnostician** : System
Test Package : MOB 2 (Additional Tests: FuelDilution, KV40, PercentFuel, PQ, VI)

WEARCHECK LUBRICATION SERVICES QA ACCOUNT
 501 Madison Ave
 Cary, NC
 US 27513
 Contact: WCLS CARY NC

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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