**WEAR** CONTAMINATION **FLUID CONDITION** 

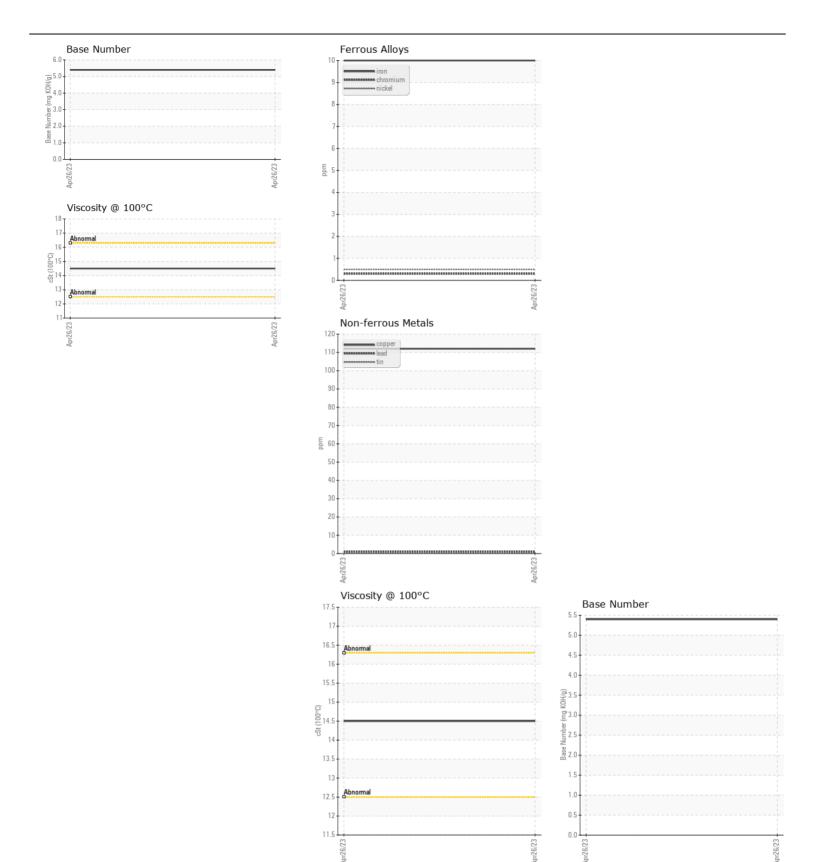
**NORMAL NORMAL NORMAL** 

Machine Id L114

Component Diesel Engine

SHELL 15W40 (--- GAL)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.	Sample Number		Client Info		WC0803503		
	Sample Date		Client Info		26 Apr 2023		
	Machine Age	hrs	Client Info		9010		
	Oil Age	hrs	Client Info		278		
	Filter Age	hrs	Client Info		278		
	Oil Changed		Client Info		Changed		
	Filter Changed		Client Info		Changed		
	Sample Status				NORMAL		
V.C.A.D.			AOTM DEADE	400	40		
WEAR	Iron	ppm	ASTM D5185m		10		
All component wear rates are normal.	Chromium	ppm	ASTM D5185m		<1		
	Nickel	ppm	ASTM D5185m	>4	<1 .1		
	Titanium Silver	ppm	ASTM D5185m	. 0	<1		
		ppm	ASTM D5185m		0		
	Aluminum Lead	ppm	ASTM D5185m ASTM D5185m		<1 1		
	Copper	ppm	ASTM D5165III		112		
	Tin	ppm	ASTM D5185m		<1		
	Vanadium	ppm	ASTM D5185m	/10	0		
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	5		
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	3		
	Fuel		WC Method	>5	<1.0		
	Water		WC Method	>0.2	NEG		
	Glycol		WC Method		NEG		
	Soot %	%	*ASTM D7844		0.2		
	Nitration	Abs/cm	*ASTM D7624	>20	8.0		
	Sulfation	Abs/.1mm	*ASTM D7415		18.0		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
	Appearance	scalar	*Visual	NORML	NORML		
	Odor Emulsified Water	scalar	*Visual	NORML	NORML NEG		
<u></u>		scalar	VISUAI	>0.2	NEG		
LUID CONDITION	Sodium	ppm	ASTM D5185m	>150	<1		
	Boron	ppm	ASTM D5185m		36		
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m		0		
	Molybdenum	ppm	ASTM D5185m		12		
	Manganese	ppm	ASTM D5185m		<1		
	Magnesium	ppm	ASTM D5185m		253		
	Calcium	ppm	ASTM D5185m		2076		
	Phosphorus	ppm	ASTM D5185m		921		
	Zinc	ppm	ASTM D5185m		1159		
	Sulfur	ppm	ASTM D5185m		3738		
	Oxidation	Abs/.1mm	*ASTM D7414	>25	11.7		
	Base Number (BN)	0 0	ASTM D2896		5.4		
	Visc @ 100°C	cSt	ASTM D445		14.5		







Certificate L2367

Laboratory Sample No.

Lab Number : 05842000 Unique Number : 10466107

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0803503

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Test Package : CONST (Additional Tests: TBN)

Received : 09 May 2023 **Tested** Diagnosed

: 10 May 2023 : 10 May 2023 - Wes Davis

2202 EAST RIVER ST TACOMA, WA US 98421

> Contact: MICHELE MARTINEZ mmartinez@metrometalswa.com T: (800)562-8464

METRO METALS NORTHWEST INC

\* - 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)