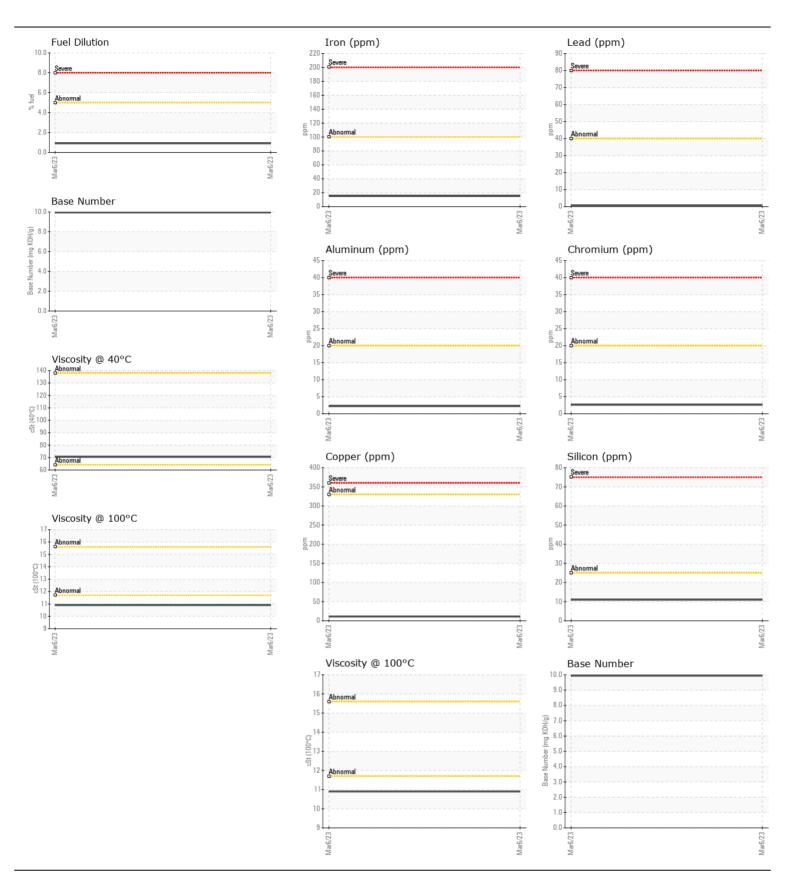
WEAR CONTAMINATION **FLUID CONDITION** **NORMAL NORMAL NORMAL**

450538B (S/N U950538B)

Component Diesel Engine

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC0789265		
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.	Sample Date		Client Info		06 Mar 2023		
	Machine Age	hrs	Client Info		200		
	Oil Age	hrs	Client Info		117		
	Filter Age	hrs	Client Info		0		
	Oil Changed		Client Info		Changed		
	Filter Changed		Client Info		Changed		
	Sample Status				NORMAL		
MEAR	lvon		ACTM DE10Em	. 100	4.5		
WEAR	Iron Chromium	ppm	ASTM D5185m ASTM D5185m		15 3		
All component wear rates are normal.	Nickel	ppm	ASTM D5185m		0		
	Titanium	ppm	ASTM D5185m	>4	<1		
	Silver	ppm	ASTM D5185m	~3	0		
	Aluminum	ppm	ASTM D5185m		2		
	Lead	ppm		>40	<1		
	Copper	ppm	ASTM D5185m		11		
	Tin	ppm	ASTM D5185m		<1		
	Vanadium	ppm	ASTM D5185m		0		
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185m		11		
Fuel content negligible. There is no indication of any contamination in	Potassium	ppm	ASTM D5185m		2		
the oil.	Fuel	%	ASTM D3524		0.9		
	Water		WC Method	>0.2	NEG		
	Glycol	0/	WC Method	0	NEG		
	Soot %	% Ala a /a aa	*ASTM D7844		0.1		
	Nitration	Abs/tmm	*ASTM D7624	>20	7.6		
	Sulfation Silt	Abs/.1mm	*ASTM D7415 *Visual	NONE	17.8 NONE		
	Debris	scalar scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
	Appearance	scalar	*Visual	NORML	NORML		
	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Sodium	ppm	ASTM D5185m		5		
	Boron	ppm	ASTM D5185m		6		
	Barium	ppm	ASTM D5185m		0		
	Molybdenum	ppm	ASTM D5185m		49		
	Manganese	ppm	ASTM D5185m		9		
	Magnesium	ppm	ASTM D5185m		895		
	Calcium	ppm	ASTM D5185m		1199		
	Phosphorus	ppm	ASTM D5185m		1003		
	Zinc	ppm	ASTM D5185m ASTM D5185m		1251		
	Sulfur Oxidation	ppm Abs/.1mm	*ASTM D5185ffi	>25	4410 14.0		
	Base Number (BN)		ASTM D7414 ASTM D2896	>20	9.94		
	Visc @ 40°C	cSt	ASTM D2090		70.5		
	Visc @ 40 C	cSt	ASTM D445		10.9		
	Viscosity Index (VI)	Scale	ASTM D2270		144		

Contact/Location: CHUCK WISHARD - HIAPLA





Certificate L2367

Laboratory Sample No. **Unique Number**

Lab Number

: 05796721 : 10386405

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 20 Mar 2023 : WC0789265 Diagnosed : 23 Mar 2023 Diagnostician : Doug Bogart

Test Package : MOB 2 (Additional Tests: FuelDilution, KV40, PercentFuel, VI) 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)

HIAB USA - Plainfield 702 COLUMBIA RD PLAINFIELD, IN US 46168-7595 Contact: CHUCK WISHARD chuck.wishard@hiab.com T: (240)625-0045