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

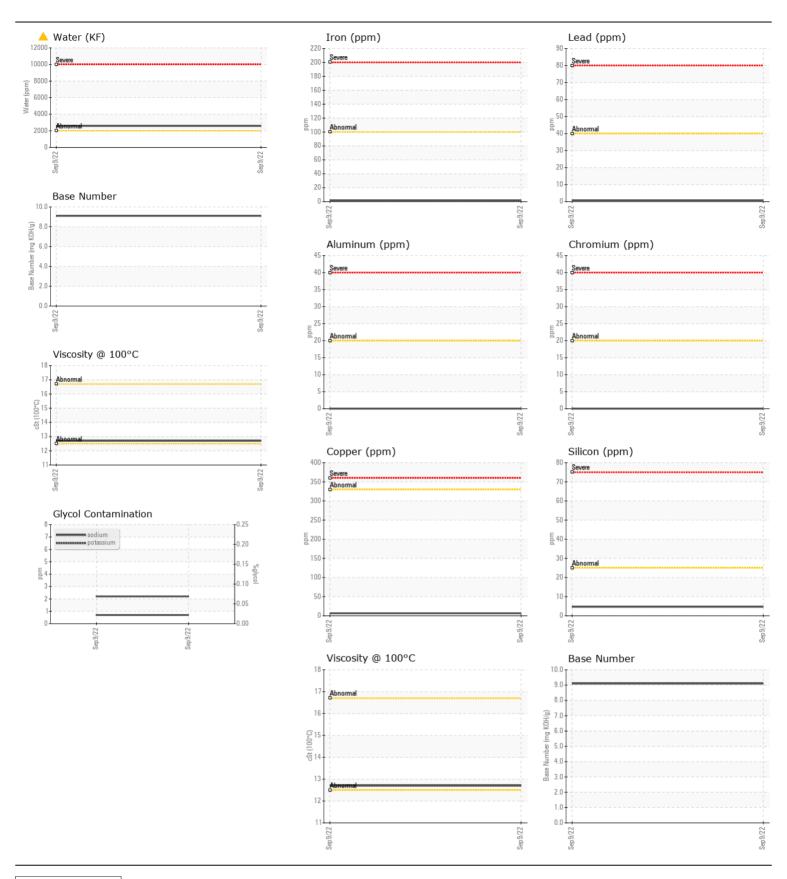
**NORMAL ABNORMAL NORMAL** 

[PMIAS2133091]

## **GENERAC MD1000 8587282**

Component Diesel Engine

WEAR All component wear rates are normal.  CONTAMINATION  CONTAMINATION  There is a light concentration of water present in the oil.	Test Sample Number Sample Date Machine Age Oil Age Filter Age Oil Changed Filter Changed Sample Status  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel Water	ppm	Method Client Info ASTM D5185m *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	Current DC0022427 09 Sep 2022 435 0 0 N/A N/A ABNORMAL 2 0 0 0 0 0 1 6 <1 0 NONE NONE 5 2	History1	History2
WEAR All component wear rates are normal.  CONTAMINATION	Sample Date Machine Age Oil Age Filter Age Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Client Info ASTM D5185m *Visual *Visual ASTM D5185m	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	09 Sep 2022 435 0 0 N/A N/A N/A ABNORMAL 2 0 0 0 0 <1 6 <1 0 NONE NONE		
WEAR All component wear rates are normal.  CONTAMINATION	Machine Age Oil Age Filter Age Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Client Info Client Info Client Info Client Info Client Info Client Info ASTM D5185m *Visual *Visual	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	435 0 0 N/A N/A ABNORMAL 2 0 0 0 0 0 <1 6 <1 0 NONE NONE		
WEAR All component wear rates are normal.  CONTAMINATION	Oil Age Filter Age Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Client Info Client Info Client Info Client Info Client Info ASTM D5185m *Visual *Visual	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	0 0 N/A N/A ABNORMAL 2 0 0 0 0 0 0 <1 6 <1 0 NONE NONE		
All component wear rates are normal.  CONTAMINATION	Filter Age Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Client Info Client Info Client Info Client Info ASTM D5185m *Visual *Visual ASTM D5185m	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	0 N/A N/A ABNORMAL 2 0 0 0 0 0 0 <1 6 <1 0 NONE NONE		
All component wear rates are normal.  CONTAMINATION	Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Client Info Client Info Client Info Client Info ASTM D5185m *Visual *Visual ASTM D5185m	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	N/A N/A ABNORMAL  2 0 0 0 0 <1 6 <1 0 NONE NONE		
All component wear rates are normal.  CONTAMINATION	Filter Changed Sample Status  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *Visual *Visual ASTM D5185m	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	N/A ABNORMAL  2 0 0 0 0 <1 6 <1 0 NONE NONE		
All component wear rates are normal.  CONTAMINATION	Sample Status  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal  Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *Visual *Visual ASTM D5185m	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	2 0 0 0 0 0 0 <1 6 <1 0 NONE NONE		
All component wear rates are normal.  CONTAMINATION	Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *Visual *Visual ASTM D5185m	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	2 0 0 0 0 0 <1 6 <1 0 NONE NONE		
All component wear rates are normal.  CONTAMINATION	Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *Visual *Visual ASTM D5185m	>20 >4 >3 >20 >40 >330 >15 NONE NONE >25	0 0 0 0 0 <1 6 <1 0 NONE NONE		
CONTAMINATION	Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar	ASTM D5185m *VISUAL *Visual *ASTM D5185m	>4 >3 >20 >40 >330 >15 NONE NONE >25	0 0 0 0 <1 6 <1 0 NONE NONE		
CONTAMINATION	Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual ASTM D5185m	>3 >20 >40 >330 >15 NONE NONE	0 0 0 <1 6 <1 0 NONE NONE	    	
	Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual ASTM D5185m	>20 >40 >330 >15 NONE NONE	0 0 <1 6 <1 0 NONE NONE	    	
	Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual ASTM D5185m	>20 >40 >330 >15 NONE NONE	0 <1 6 <1 0 NONE NONE	   	
	Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual ASTM D5185m	>40 >330 >15 NONE NONE >25	<1 6 <1 0 NONE NONE	   	
	Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual ASTM D5185m	>330 >15 NONE NONE >25	6 <1 0 NONE NONE		
	Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m *Visual *Visual ASTM D5185m	>15 NONE NONE >25	<1 0 NONE NONE	  	
	Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel	ppm ppm scalar scalar ppm	*Visual *Visual ASTM D5185m	NONE NONE >25	0 NONE NONE	  	
	White Metal Yellow Metal Silicon Potassium Fuel	ppm scalar scalar ppm	*Visual *Visual ASTM D5185m	NONE >25	NONE NONE 5		
	Yellow Metal Silicon Potassium Fuel	scalar scalar ppm	*Visual ASTM D5185m	NONE >25	NONE 5		
	Silicon Potassium Fuel	ppm	ASTM D5185m	>25	5		
	Potassium Fuel						
	Potassium Fuel						
There is a light concentration of water present in the oil.	Fuel	ppm	ASTM D5185m	>20	2		
rifere is a light concentration of water present in the oil.				/ _ 0			
	Water		WC Method	>5	<1.0		
		%	ASTM D6304	>0.2	<b>0.259</b>		
	ppm Water	ppm	ASTM D6304	>2000	<b>2590</b>		
	Glycol	%	*ASTM D2982		NEG		
	Soot %	%	*ASTM D7844	>3	0		
	Nitration	Abs/cm	*ASTM D7624	>20	6.5		
	Sulfation	Abs/.1mm	*ASTM D7415	>30	16.6		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	LIGHT		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
	Appearance	scalar	*Visual	NORML	NORML		
	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	<b>0.2%</b>		
LUID CONDITION	Sodium	ppm	ASTM D5185m		<1		
	Boron	ppm	ASTM D5185m		7		
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		4		
	Manganese	ppm	ASTM D5185m		0		
	Magnesium	ppm	ASTM D5185m		56		
	Calcium	ppm	ASTM D5185m		2405		
	Phosphorus	ppm	ASTM D5185m		923		
	Zinc	ppm	ASTM D5185m		1070		
	Sulfur	ppm	ASTM D5185m		4418		
	Oxidation	Abs/.1mm	*ASTM D7414	>25	10.7		
	Base Number (BN)		ASTM D2896	720	9.1		
	Visc @ 100°C	cSt	ASTM D2090		12.7		





Certificate L2367

Laboratory Sample No.

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

: DC0022427 Lab Number : 05646434 Unique Number : 10140973

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

Received **Tested** 

: 20 Sep 2022 : 21 Sep 2022 Diagnosed

: 21 Sep 2022 - Jonathan Hester Test Package : MOB 1 (Additional Tests: Glycol, KF, TBN)

**KELLY GENERATOR & EQUIPMENT INC** 1955 DALE LN OWINGS, MD US 20736

Contact: LESLIE SNURR LSNURR@KGE.COM T: (410)257-5225

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

F: (410)257-5227 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Contact/Location: LESLIE SNURR - KELOWI