

## Machine Id **KENWORTH RRL-9** Component

## **Diesel Engine**

## GIBRALTAR 15W/40 SUPER S-3 LX (--- GAL)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		WC0875559		
	Sample Date		Client Info		21 Mar 2024		
	Machine Age	hrs	Client Info		24451		
	Oil Age	hrs	Client Info		0		
	Filter Age	hrs	Client Info		0		
	Oil Changed		Client Info		Changed		
	Filter Changed		Client Info		Changed		
	Sample Status				NORMAL		
WEAR Metal levels are typical for a new component breaking in.	Iron	ppm	ASTM D5185m	>100	47		
	Chromium	ppm	ASTM D5185m	>20	2		
	Nickel	ppm	ASTM D5185m	>4	2		
	Titanium	ppm	ASTM D5185m		<1		
	Silver	ppm	ASTM D5185m	>3	<1		
	Aluminum	ppm	ASTM D5185m	>20	5		
	Lead	ppm	ASTM D5185m	>40	4		
	Copper	ppm	ASTM D5185m	>330	3		
	Tin	ppm	ASTM D5185m	>15	2		
	Vanadium	ppm	ASTM D5185m		<1		
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	7		
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	9		
	Fuel		WC Method	>5	<1.0		
	Water		WC Method	>0.2	NEG		
	Glycol		WC Method		NEG		
	Soot %	%	*ASTM D7844	>3	0.8		
	Nitration	Abs/cm	*ASTM D7624	>20	11.0		
	Sulfation	Abs/.1mm	*ASTM D7415	>30	25.1		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	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		
FLUID CONDITION	Sodium	ppm	ASTM D5185m		10		
	Boron	ppm	ASTM D5185m		11		
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		<1		
	Molybdenum	ppm	ASTM D5185m	66	83		
	Manganese	ppm	ASTM D5185m		1		
	Magnesium	ppm	ASTM D5185m	1000	891		
	Calcium	ppm	ASTM D5185m		1245		
	Phosphorus	ppm	ASTM D5185m	1150	1024		
	Zinc	ppm	ASTM D5185m		1291		
	Sulfur	ppm	ASTM D5185m		3414		
	Oxidation	Abs/.1mm	*ASTM D7414	>25	24.9		

Visc @ 100°C cSt

ASTM D445 15.5

13.9



