

Machine Id **26022129** Component **Diesel Engine** Fluid **SHELL ROTELLA T 15W40 (--- GAL)**

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

Chromium and tin ppm levels are abnormal. Aluminum ppm levels are noted. Ring wear is indicated. Slide bearing wear is indicated.

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate aluminasilicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

	Sample Number		Client Info		CU002211	8	
	Sample Date		Client Info		15 Feb 202	4	
	Machine Age	hrs	Client Info		27851		
	Oil Age	hrs	Client Info		659		
	Filter Age	hrs	Client Info		659		
	Oil Changed		Client Info		Changed		
	Filter Changed		Client Info		Changed		
	Sample Status				ABNORMA	L	
	Iron			. 165	146		
	Chromium	ppm	ASTM D5185(m)	>100	140		
	Nickol	ppm	ASTM D5105(III)	>0	_ 0 _1		
	Titonium	ppm	AGTM D5105(III)	>4	<1		
	Cilvor	ppin	AGTM D5105(III)	>2	<1		
	Alveriave	ррп		>2	0		
	Aluminum	ppm	ASTM D5185(m)	>20	▲ 18 07		
	Lead	ppm	ASTM D5185(m)	>150	67		
	Copper	ppm	ASTM D5185(m)	>90	8		
	l in	ppm	ASTM D5185(m)	>5	<u>8</u>		
	Vanadium	ppm	ASTM D5185(m)		0		
	Silicon	ppm	ASTM D5185(m)	>35	▲ 52		
	Potassium	ppm	ASTM D5185(m)	>20	6		
	Fuel		WC Method	>3.0	<1.0		
	Water		WC Method	>0.2	NEG		
	Glycol	%	ASTM D7922*		0.0		
	Soot %	%	ASTM D7844*	>7.5	1.7		
	Nitration	Abs/cm	ASTM D7624*	>20	12.3		
	Sulfation	Abs/.1mm	ASTM D7415*	>30	28.5		
	Emulsified Water	scalar	Visual*	>0.2	NEG		
	0				_		
	Soaium	ppm		05	1		
	Boron	ppm		35	46		
	Barium	ppm	ASTM D5185(m)	0	0		
	Molybdenum	ppm		0	21		
	Manganese	ppm	ASTM D5185(m)	0	1		
	Magnesium	ppm	ASTM D5185(m)	10	344		
	Calcium	ppm	ASTM D5185(m)	2340	2144		
	Phosphorus	ppm	ASTM D5185(m)	1110	1134		
	Zinc	ppm	ASTM D5185(m)	1210	1312		
	Sultur	ppm	ASTM D5185(m)	3890	3254		
	Oxidation	Abs/.1mm	ASTM D7414*	>25	22.8		
	Visc @ 100°C	cSt	ASTM D7279(m)	15.7	15.7		

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Contact/Location: Jason Ferland - TRA320STE

WEAR ABNORMAL CONTAMINATION ABNORMAL FLUID CONDITION NORMAL

Limit/Abn Current

History1

History2

Test

UOM

Method

