



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
HOGAN PARK
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0872223	LF0001291	---
Sample Date		Client Info		19 Oct 2023	13 Oct 2022	---
Machine Age	hrs	Client Info		54	138	---
Oil Age	hrs	Client Info		54	138	---
Filter Age	hrs	Client Info		54	138	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	2	4	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>4	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	1	<1	---
Lead	ppm	ASTM D5185m	>40	0	1	---
Copper	ppm	ASTM D5185m	>330	<1	2	---
Tin	ppm	ASTM D5185m	>15	0	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	9	8	---
Potassium	ppm	ASTM D5185m	>20	8	8	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	6.9	9.5	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	22.6	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

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		0	5	---
Boron	ppm	ASTM D5185m	316	190	169	---
Barium	ppm	ASTM D5185m	0.0	8	0	---
Molybdenum	ppm	ASTM D5185m	1.2	0	<1	---
Manganese	ppm	ASTM D5185m		0	<1	---
Magnesium	ppm	ASTM D5185m	24	11	23	---
Calcium	ppm	ASTM D5185m	2292	1952	2206	---
Phosphorus	ppm	ASTM D5185m	1064	836	979	---
Zinc	ppm	ASTM D5185m	1160	1064	1183	---
Sulfur	ppm	ASTM D5185m	4996	3353	3929	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	20.7	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.3	8.7	---
Visc @ 100°C	cSt	ASTM D445	15.7	13.7	13.6	---

