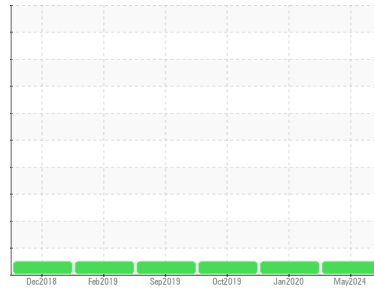




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

FSP 132142

Component

Diesel Engine

Fluid

SHELL ROTELLA T3 15W40 (28 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0903139	WC0331935	WC0331884
Sample Date	Client Info		31 May 2024	16 Jan 2020	31 Oct 2019
Machine Age	mls	Client Info	381889	254043	0
Oil Age	mls	Client Info	60000	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >90	23	14	16
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	0	<1	0
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	5	6	8
Lead	ppm	ASTM D5185m >40	0	<1	0
Copper	ppm	ASTM D5185m >330	<1	<1	<1
Tin	ppm	ASTM D5185m >15	0	<1	0
Antimony	ppm	ASTM D5185m	---	0	2
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 10	267	15	53
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 10	80	7	37
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 10	524	71	324
Calcium	ppm	ASTM D5185m 2600	1420	2260	1849
Phosphorus	ppm	ASTM D5185m 1050	1058	907	973
Zinc	ppm	ASTM D5185m 1250	1274	998	1065
Sulfur	ppm	ASTM D5185m 3900	3770	3702	1192

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	4	3
Sodium	ppm	ASTM D5185m	2	2	3
Potassium	ppm	ASTM D5185m >20	1	6	9

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	0.6	1	1.2
Nitration	Abs/cm	*ASTM D7624 >20	7.5	8.7	9.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.8	19.9	22.1

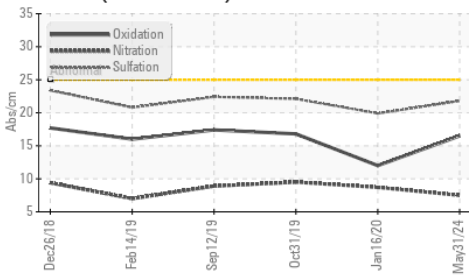
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.5	12	16.8
Base Number (BN)	mg KOH/g	ASTM D2896 10.6	7.6	7.6	8.8

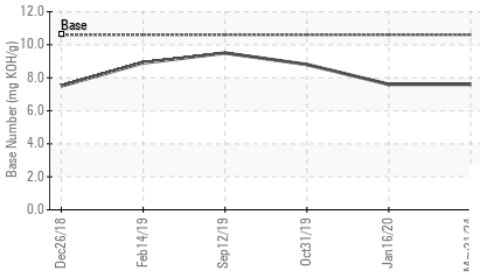


OIL ANALYSIS REPORT

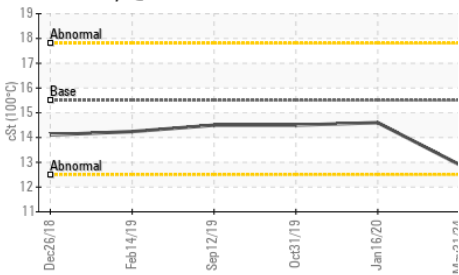
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

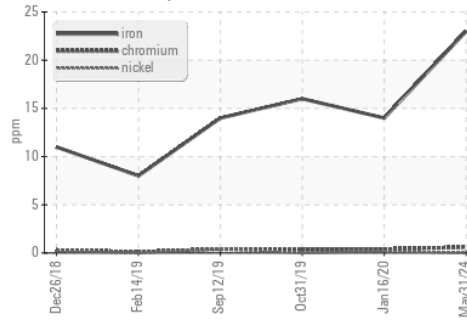


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

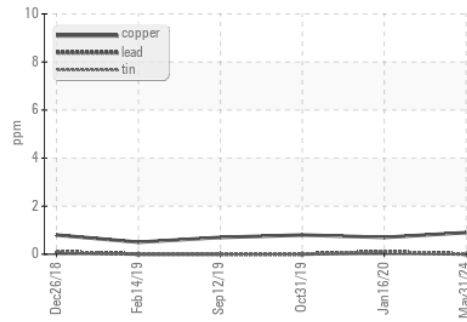
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.5	12.9	14.6

GRAPHS

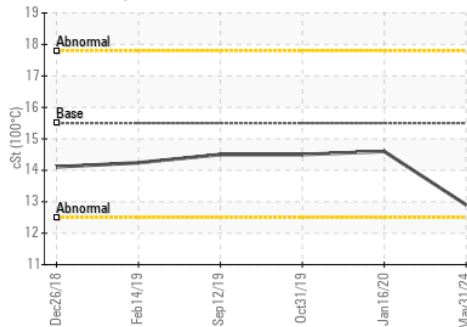
Ferrous Alloys



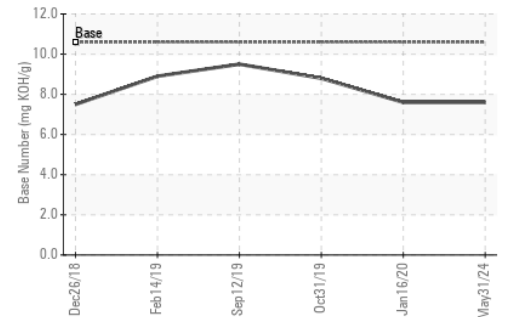
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0903139
Lab Number : 06211141
Unique Number : 11084005
Test Package : FLEET
Received : 14 Jun 2024
Tested : 18 Jun 2024
Diagnosed : 18 Jun 2024 - Angela Borella

FRESHPOINT
 8801 EXCHANGE DRIVE
 ORLANDO, FL
 US 32809
 Contact: CRAIG EVANS
 evans_craig@sbcglobal.net

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)