



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WHITBY JOIE DE VIVRE - W42088
 Component
Center Main Engine
 Fluid
SHELL ROTELLA T 30 (8 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0429284	WCM003652	WC001301
Sample Date		Client Info		14 Jan 2020	02 Jun 2015	17 Apr 2013
Machine Age	hrs	Client Info		7757	6684	5400
Oil Age	hrs	Client Info		148	80	160
Filter Age	hrs	Client Info		148	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	11	9	12
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m	>3	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	4	4	6
Lead	ppm	ASTM D5185m	>18	3	2	0
Copper	ppm	ASTM D5185m	>80	<1	2	1
Tin	ppm	ASTM D5185m	>14	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

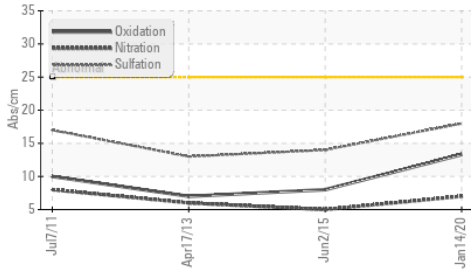
Silicon	ppm	ASTM D5185m	>20	5	9	5
Potassium	ppm	ASTM D5185m	>20	0	2	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0	0
Nitration	Abs/cm	*ASTM D7624	>20	7	5.	6.
Sulfation	Abs/.1mm	*ASTM D7415	>30	18	14.	13.
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

FLUID CONDITION

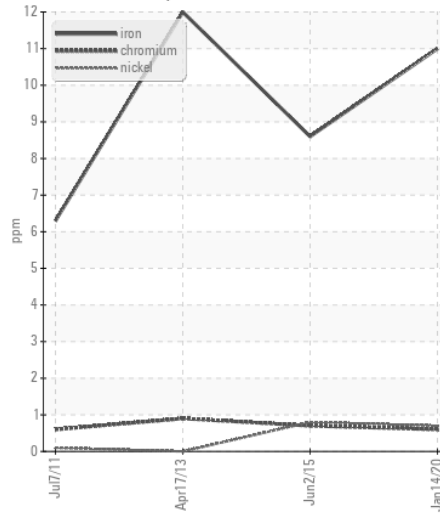
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>75	3	2	1
Boron	ppm	ASTM D5185m	0	42	7	3
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	0	71	94	2
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		148	216	8
Calcium	ppm	ASTM D5185m	1890	2354	2572	2774
Phosphorus	ppm	ASTM D5185m	680	904	980	662
Zinc	ppm	ASTM D5185m	750	1014	1028	802
Sulfur	ppm	ASTM D5185m		2812	2937	2538
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.3	8.	7.
Visc @ 100°C	cSt	ASTM D445	11.5	12.8	11.95	11.84

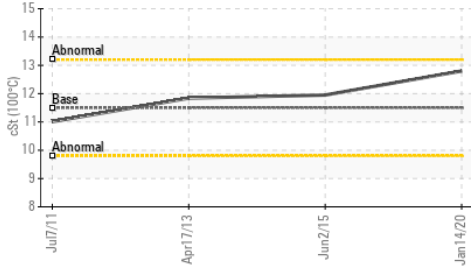
FT-IR (Direct Trend)



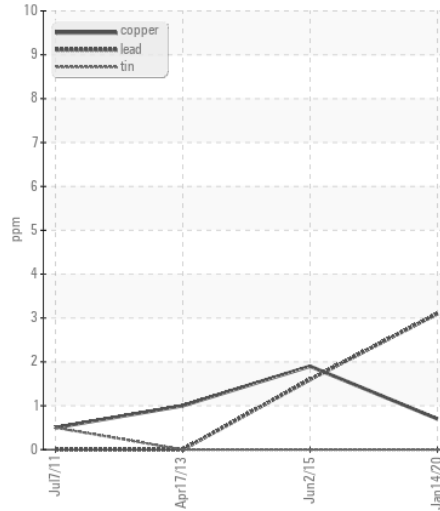
Ferrous Alloys



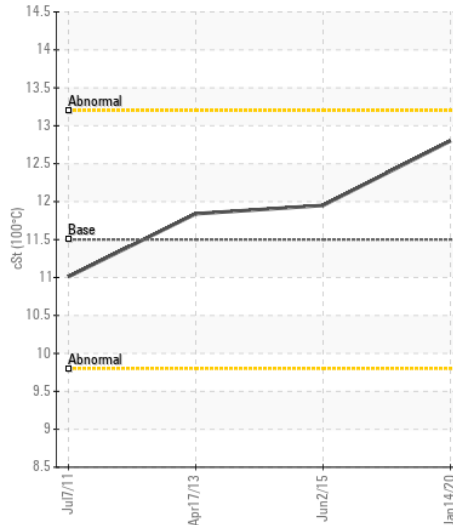
Viscosity @ 100°C



Non-ferrous Metals



Viscosity @ 100°C



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0429284
Lab Number : 04897622
Unique Number : 8902683
Test Package : MAR 1
Received : 28 Jan 2020
Tested : 29 Jan 2020
Diagnosed : 29 Jan 2020 - Don Baldrige

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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)