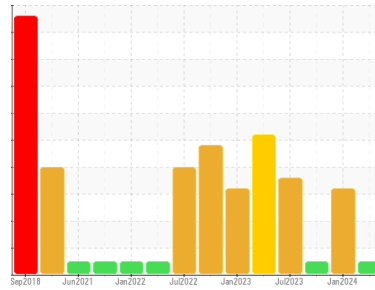




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

UTILITIES

Machine Id

CS1-GEN (S/N 3000364492)

Component

Auxiliary Power Unit Natural Gas Engine

Fluid

DIESEL ENGINE OIL SAE 5W30 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

Metal levels are typical for a new component breaking in.

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			WC0840377	WC0840385	WC0840389
Sample Date	Client Info			22 Apr 2024	22 Jan 2024	13 Nov 2023
Machine Age	hrs	Client Info		270	261	256
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	SEVERE	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.1	NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	8	6	6
Chromium	ppm	ASTM D5185m	>4	1	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	4	2	1
Lead	ppm	ASTM D5185m	>30	6	6	4
Copper	ppm	ASTM D5185m	>35	4	2	3
Tin	ppm	ASTM D5185m	>4	<1	2	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		<1	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	120	118	137
Barium	ppm	ASTM D5185m	10	0	0	7
Molybdenum	ppm	ASTM D5185m	100	115	113	124
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	450	527	532	502
Calcium	ppm	ASTM D5185m	3000	1051	1064	1089
Phosphorus	ppm	ASTM D5185m	1150	696	672	707
Zinc	ppm	ASTM D5185m	1350	787	799	749
Sulfur	ppm	ASTM D5185m	4250	3342	2867	2946

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	10	8	8
Sodium	ppm	ASTM D5185m		7	4	0
Potassium	ppm	ASTM D5185m	>20	1	2	<1

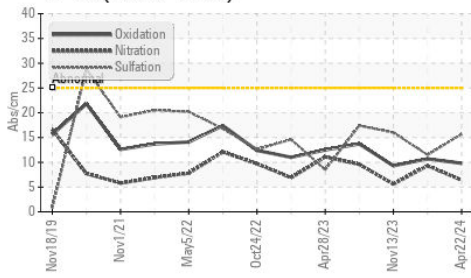
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	6.4	9.3	5.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.7	11.5	16.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.8	10.7	9.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.53	8.10	6.94

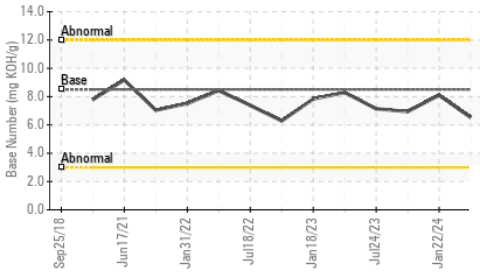


OIL ANALYSIS REPORT

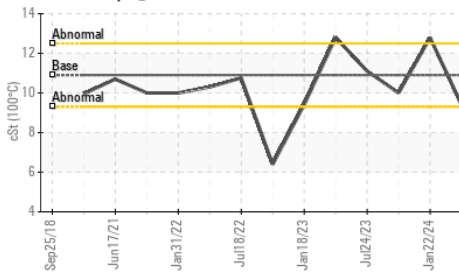
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

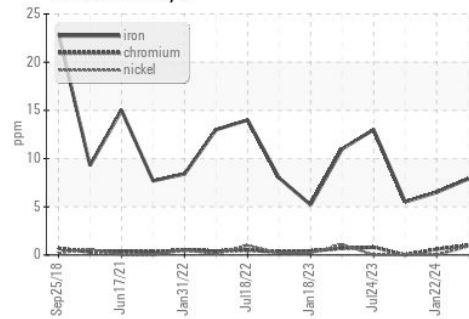


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

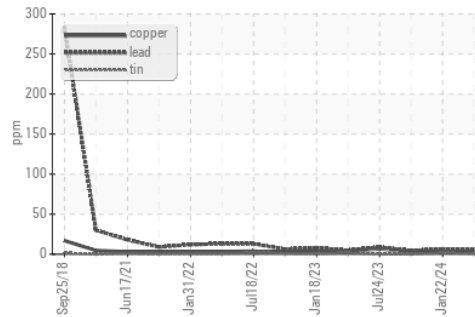
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	9.4	12.79

GRAPHS

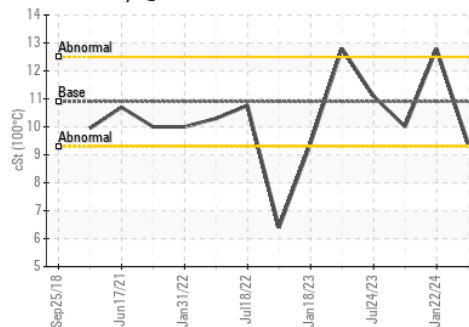
Ferrous Alloys



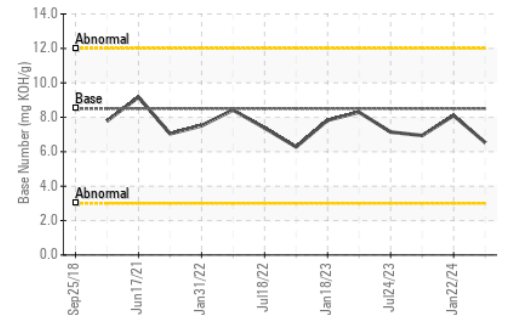
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0840377
Lab Number : 06160580
Unique Number : 10996003
Test Package : IND 2

Received : 25 Apr 2024
Tested : 26 Apr 2024
Diagnosed : 26 Apr 2024 - Wes Davis

TORAY CARBON FIBERS AMERICA INC
 2202 MOORE DUNCAN HWY
 MOORE, SC
 US 29369
 Contact: Kirk Stilling
 Kirk.stilling@toraycma.com

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)