



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
146-1246
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RPL0016996	RPL0006816	RPL0002211
Sample Date		Client Info		26 Jun 2024	02 Dec 2022	27 Jun 2022
Machine Age	mls	Client Info		182031	111451	95369
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	33	49	43
Chromium	ppm	ASTM D5185m	>20	<1	2	2
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	8	10	5
Lead	ppm	ASTM D5185m	>40	0	<1	1
Copper	ppm	ASTM D5185m	>330	0	4	3
Tin	ppm	ASTM D5185m	>15	0	<1	2
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.

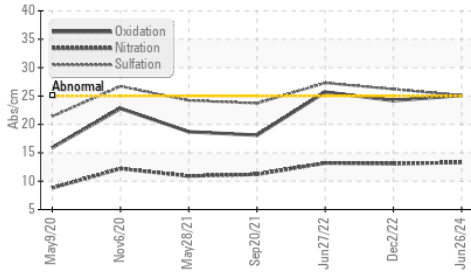
Silicon	ppm	ASTM D5185m	>25	6	9	7
Potassium	ppm	ASTM D5185m	>20	13	18	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.1	1.2	1
Nitration	Abs/cm	*ASTM D7624	>20	13.3	13.1	13.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.1	26.2	27.3
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

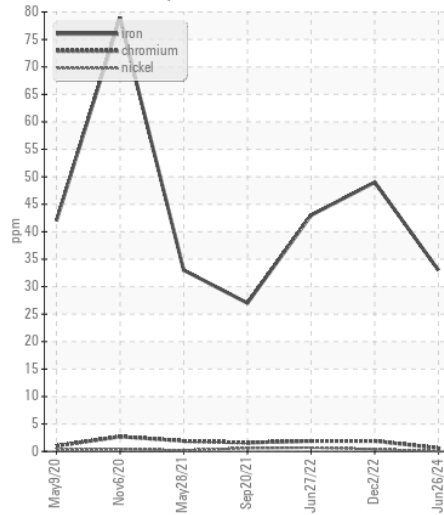
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	2	3	2
Boron	ppm	ASTM D5185m	250	32	18	35
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	102	53	21
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	450	772	808	620
Calcium	ppm	ASTM D5185m	3000	1390	1336	1523
Phosphorus	ppm	ASTM D5185m	1150	884	857	701
Zinc	ppm	ASTM D5185m	1350	1061	1079	857
Sulfur	ppm	ASTM D5185m	4250	3662	2924	3116
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.1	24.2	25.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.6	6.9	7.5
Visc @ 100°C	cSt	ASTM D445	14.4	14.0	14.2	14.3

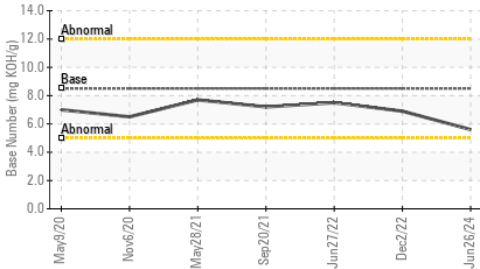
FT-IR (Direct Trend)



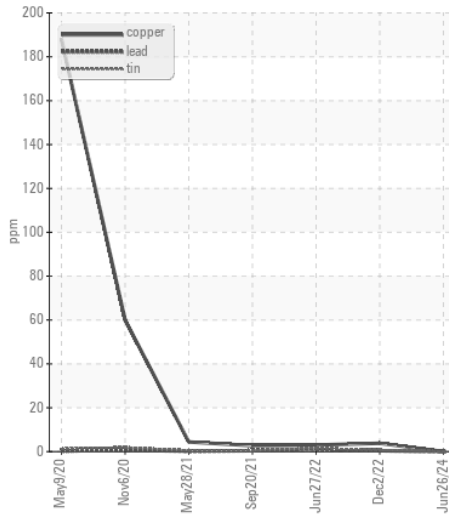
Ferrous Alloys



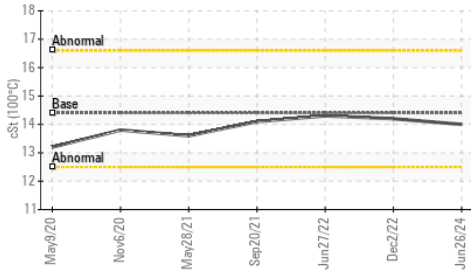
Base Number



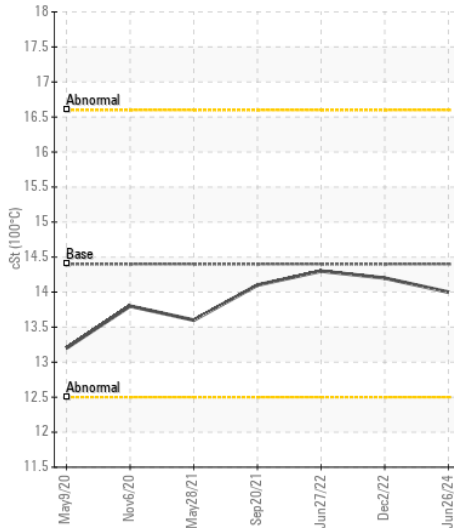
Non-ferrous Metals



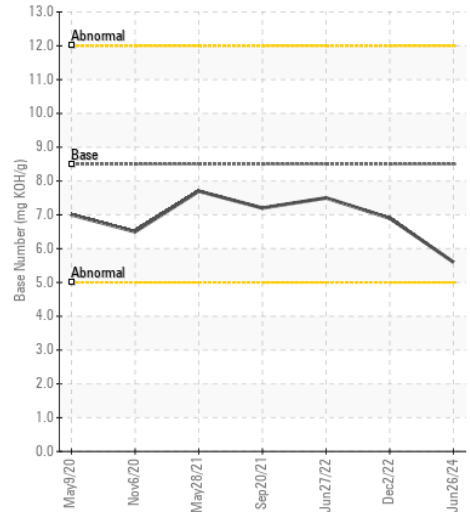
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : RPL0016996

Lab Number : 06232969

Unique Number : 11116462

Test Package : FLEET

Received : 11 Jul 2024

Tested : 11 Jul 2024

Diagnosed : 12 Jul 2024 - Don Baldrige

RTL PACLEASE - 7008 - Phoenix

625 South 27th Ave

Phoenix, AZ

US 85009

Contact: Maurice Pilotte

PilotteM@rushenterprises.com

T: (602)566-5712

F:

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)