



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
4160143
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0774589	WC0774617	WC0413387
Sample Date		Client Info		01 Jun 2023	01 May 2023	10 Jan 2020
Machine Age	hrs	Client Info		1087	1043	7075
Oil Age	hrs	Client Info		0	253	260
Filter Age	hrs	Client Info		0	253	0
Oil Changed		Client Info		N/A	Not Changd	Changed
Filter Changed		Client Info		N/A	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	2	4	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	1	3	2
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

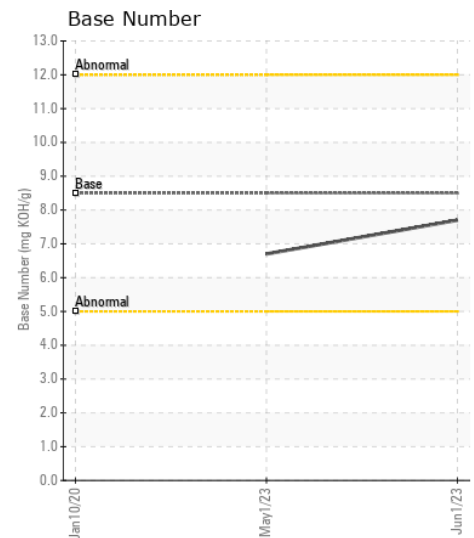
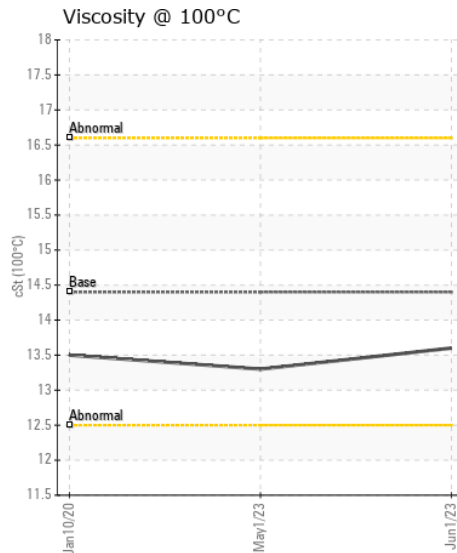
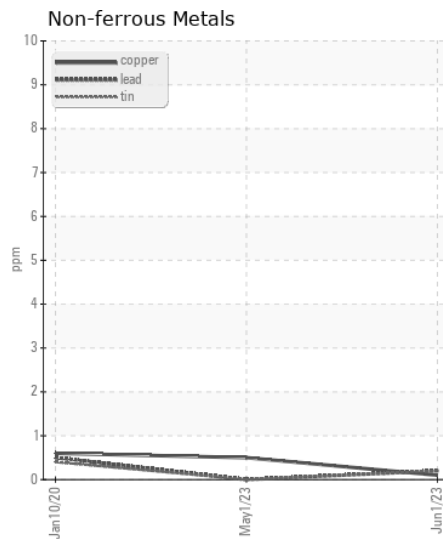
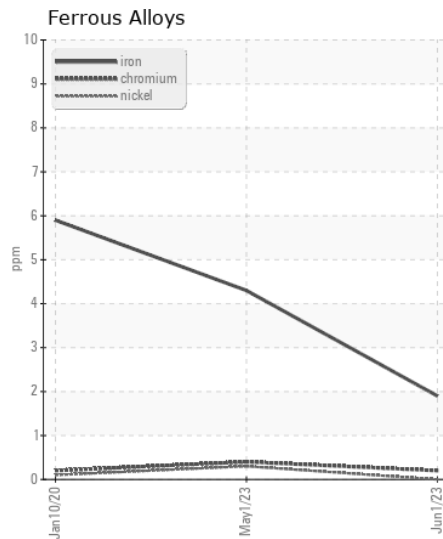
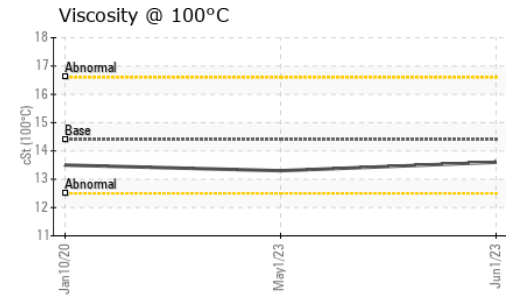
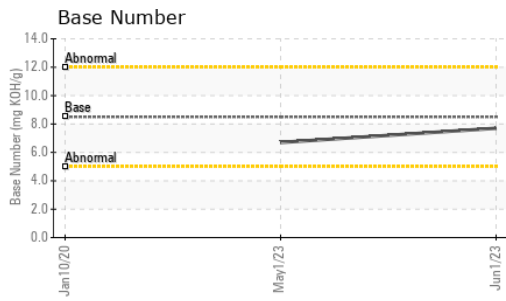
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	6	4
Potassium	ppm	ASTM D5185m	>20	4	<1	2
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	0.1	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	4.8	5.5	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	19.7	20.5
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	1	1	2
Boron	ppm	ASTM D5185m	250	471	421	479
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	92	97	91
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	435	491	404
Calcium	ppm	ASTM D5185m	3000	1439	1375	1639
Phosphorus	ppm	ASTM D5185m	1150	981	905	988
Zinc	ppm	ASTM D5185m	1350	1217	1104	1072
Sulfur	ppm	ASTM D5185m	4250	3885	3525	2938
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	14.5	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.7	6.7	---
Visc @ 100°C	cSt	ASTM D445	14.4	13.6	13.3	13.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0774589 **Received** : 16 Jun 2023
Lab Number : 05875196 **Diagnosed** : 16 Jun 2023
Unique Number : 10520299 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: TBN)

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)

KELLER - NORTH AMERICA
 510 NINE NORTH COURT
 ALPHARETTA, GA
 US 30004-2961
 Contact: SHOP MANAGER
 SRLEWIS@KELLER-NA.COM
 T: (770)442-1801
 F: (770)442-8344