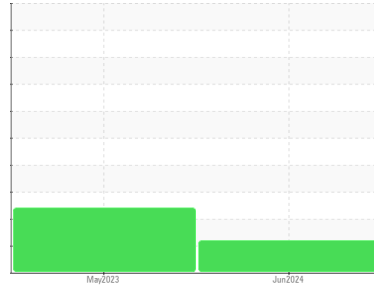




OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id
050-0043

Component
Diesel Engine

Fluid
DISEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. (Customer Sample Comment: Engine oil sample)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN level is low.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0868283	WC0815171	---
Sample Date	Client Info		14 Jun 2024	18 May 2023	---
Machine Age	hrs	Client Info	640	379	---
Oil Age	hrs	Client Info	379	0	---
Oil Changed	Client Info		Changed	Changed	---
Sample Status			ABNORMAL	ABNORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	---
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	97	▲ 186	---
Chromium	ppm	ASTM D5185m >20	4	8	---
Nickel	ppm	ASTM D5185m >4	0	2	---
Titanium	ppm	ASTM D5185m	<1	1	---
Silver	ppm	ASTM D5185m >3	0	<1	---
Aluminum	ppm	ASTM D5185m >20	11	20	---
Lead	ppm	ASTM D5185m >40	1	9	---
Copper	ppm	ASTM D5185m >330	3	11	---
Tin	ppm	ASTM D5185m >15	2	2	---
Vanadium	ppm	ASTM D5185m	0	<1	---
Cadmium	ppm	ASTM D5185m	0	<1	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	67	49	---
Barium	ppm	ASTM D5185m 10	0	4	---
Molybdenum	ppm	ASTM D5185m 100	78	76	---
Manganese	ppm	ASTM D5185m	2	4	---
Magnesium	ppm	ASTM D5185m 450	44	421	---
Calcium	ppm	ASTM D5185m 3000	2424	2036	---
Phosphorus	ppm	ASTM D5185m 1150	1121	1000	---
Zinc	ppm	ASTM D5185m 1350	1359	1353	---
Sulfur	ppm	ASTM D5185m 4250	5334	3845	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	26	▲ 128	---
Sodium	ppm	ASTM D5185m >158	4	7	---
Potassium	ppm	ASTM D5185m >20	3	6	---

INFRA-RED

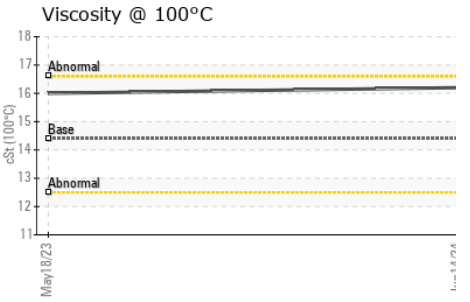
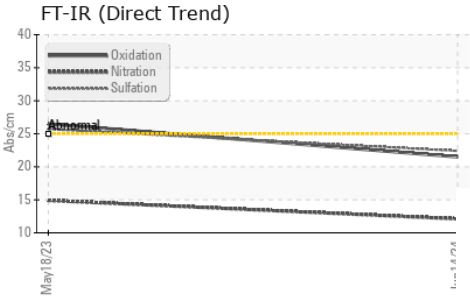
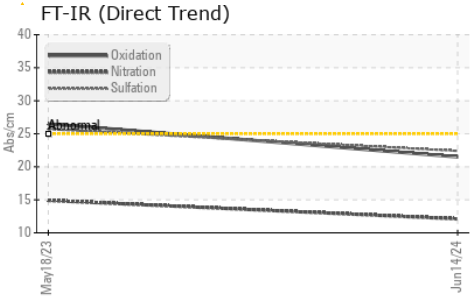
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.7	---
Nitration	Abs/cm	*ASTM D7624 >20	12.1	14.9	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.4	25.7	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	21.5	26.5	---
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	▲ 3.4	7.4	---



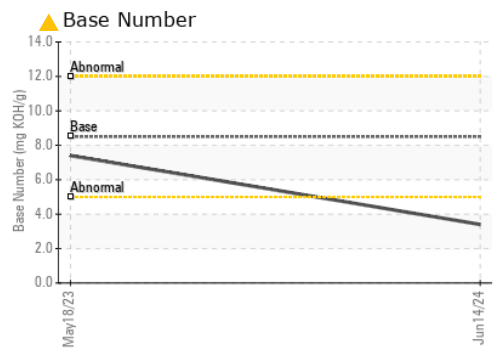
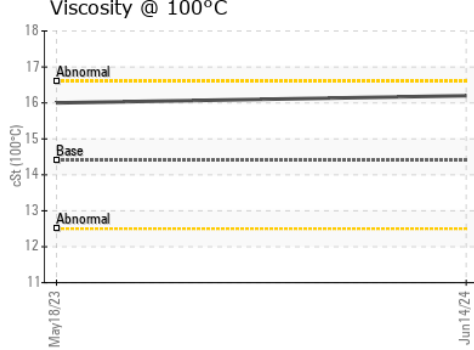
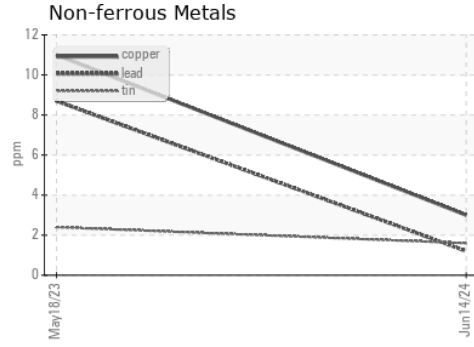
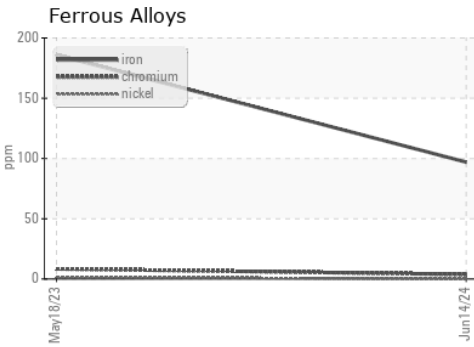
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	16.2	16.0

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0868283 **Received** : 21 Jun 2024
Lab Number : 06216685 **Tested** : 24 Jun 2024
Unique Number : 11089549 **Diagnosed** : 24 Jun 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

SHIMMICK CONSTRUCTION
 5535 TRAILHEAD DRIVE
 CHATTANOOGA, TN
 US 37415
 Contact: DANIEL LISELLA
 daniel.lisella@shimmick.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)