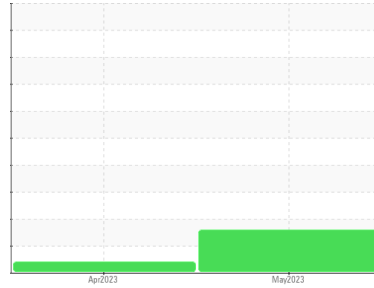




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
GEORGIA
 Machine Id
8510

Component
Diesel Engine
 Fluid

DIESEL ENGINE OIL SAE 15W40 (--- QTS)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0730466	WC0646035	---
Sample Date	Client Info		16 May 2023	25 Apr 2023	---
Machine Age	mls	Client Info	10392	8409	---
Oil Age	mls	Client Info	0	0	---
Oil Changed	Client Info		Not Chngd	Not Chngd	---
Sample Status			ABNORMAL	ATTENTION	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	0.8	---
Water	WC Method	>0.2	NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	62	60	---
Chromium	ppm	ASTM D5185m >20	2	2	---
Nickel	ppm	ASTM D5185m >4	0	0	---
Titanium	ppm	ASTM D5185m	0	0	---
Silver	ppm	ASTM D5185m >3	0	0	---
Aluminum	ppm	ASTM D5185m >20	8	8	---
Lead	ppm	ASTM D5185m >40	0	0	---
Copper	ppm	ASTM D5185m >330	5	5	---
Tin	ppm	ASTM D5185m >15	<1	0	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	49	52	---
Barium	ppm	ASTM D5185m 10	2	0	---
Molybdenum	ppm	ASTM D5185m 100	41	42	---
Manganese	ppm	ASTM D5185m	3	3	---
Magnesium	ppm	ASTM D5185m 450	547	553	---
Calcium	ppm	ASTM D5185m 3000	1628	1639	---
Phosphorus	ppm	ASTM D5185m 1150	746	727	---
Zinc	ppm	ASTM D5185m 1350	906	898	---
Sulfur	ppm	ASTM D5185m 4250	2805	2555	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	14	13	---
Sodium	ppm	ASTM D5185m >158	4	3	---
Potassium	ppm	ASTM D5185m >20	▲ 46	41	---
Glycol	%	*ASTM D2982	NEG	0.0	---

INFRA-RED

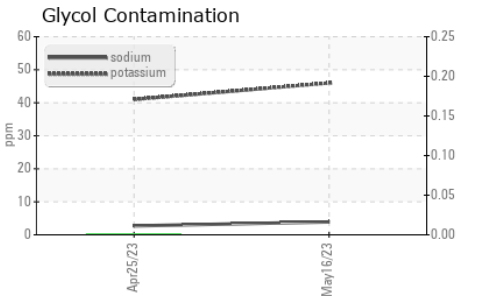
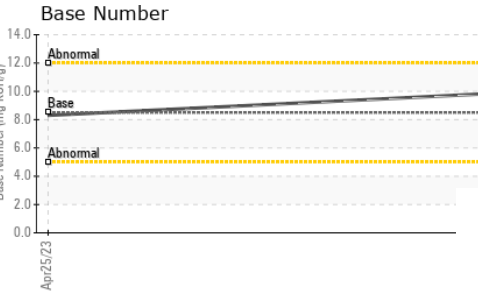
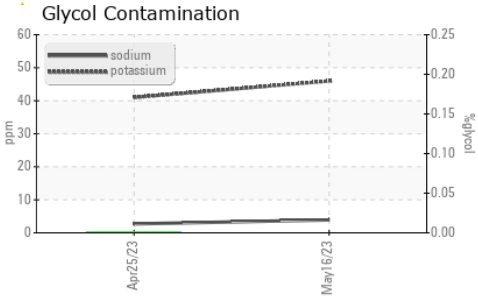
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.4	---
Nitration	Abs/cm	*ASTM D7624 >20	8.0	6.7	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.4	20.3	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.9	18.9	---
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	9.8	8.3	---



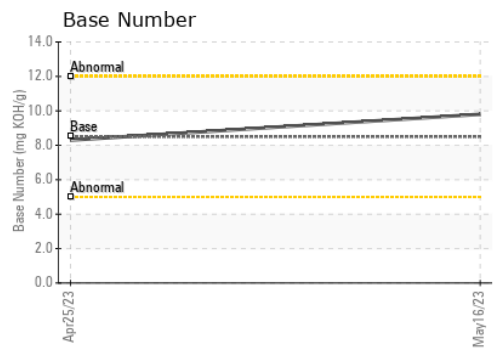
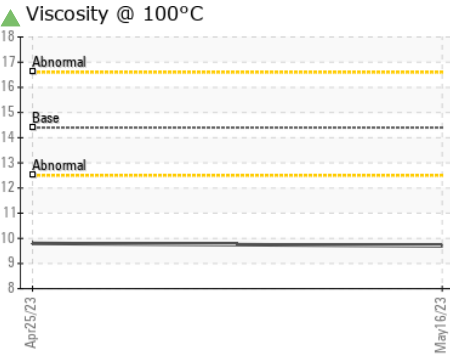
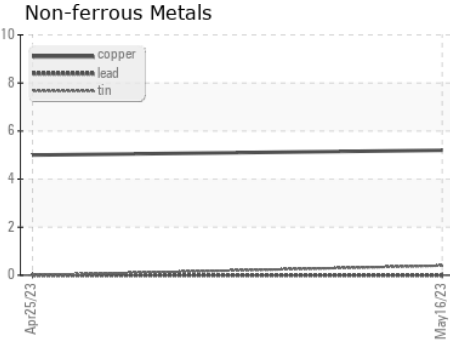
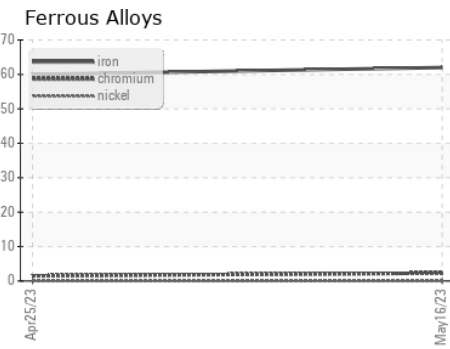
OIL ANALYSIS REPORT



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 ▲ 9.7	▲ 9.8	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0730466 **Received** : 23 May 2023
Lab Number : 05854873 **Diagnosed** : 25 May 2023
Unique Number : 10484228 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

LIBERTY DISPOSAL
 6401 S EASTERN AVE
 OKLAHOMA CITY, OK
 US 73149
 Contact: Loran Cottle
 l.cottle@ldi89.com
 T: (910)970-0291
 F: x:

Certificate L2367
 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)