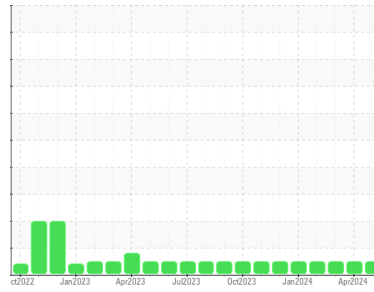




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
ARIZONA
Machine Id
VOLVO 4874
Component
Diesel Engine
Fluid
NAPA Motor Oil 15W40 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

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		WC0935443	WC0899591	WC0899580
Sample Date	Client Info		04 May 2024	10 Apr 2024	02 Mar 2024
Machine Age	hrs	Client Info	3277	3115	2896
Oil Age	hrs	Client Info	2557	2395	2176
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>6.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	78	71	59
Chromium	ppm	ASTM D5185m >20	1	<1	<1
Nickel	ppm	ASTM D5185m >2	6	6	4
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >2	<1	<1	<1
Aluminum	ppm	ASTM D5185m >25	6	6	4
Lead	ppm	ASTM D5185m >40	4	4	2
Copper	ppm	ASTM D5185m >330	127	126	124
Tin	ppm	ASTM D5185m >15	4	4	3
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	18	19	20
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	38	37	37
Manganese	ppm	ASTM D5185m	2	2	2
Magnesium	ppm	ASTM D5185m	590	619	575
Calcium	ppm	ASTM D5185m	1544	1597	1520
Phosphorus	ppm	ASTM D5185m	902	900	852
Zinc	ppm	ASTM D5185m	1038	1087	1014
Sulfur	ppm	ASTM D5185m	2729	3082	2359

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	12	11	9
Sodium	ppm	ASTM D5185m	4	4	0
Potassium	ppm	ASTM D5185m >20	18	16	10

INFRA-RED

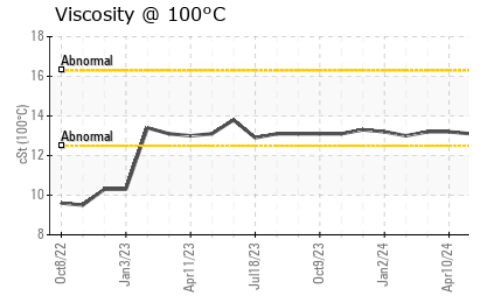
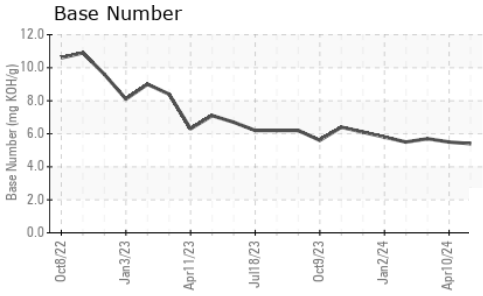
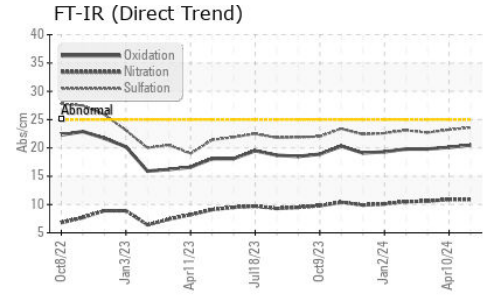
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.9	0.8	0.7
Nitration	Abs/cm	*ASTM D7624 >20	10.9	10.9	10.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.6	23.2	22.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.5	20.1	19.8
Base Number (BN)	mg KOH/g	ASTM D2896	5.4	5.5	5.7



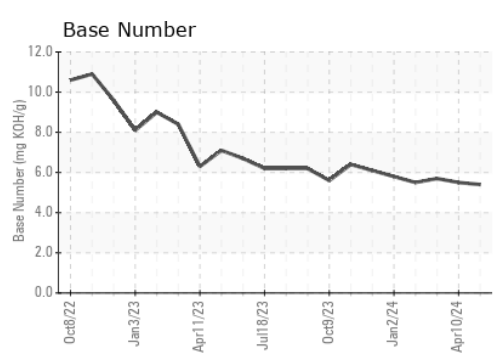
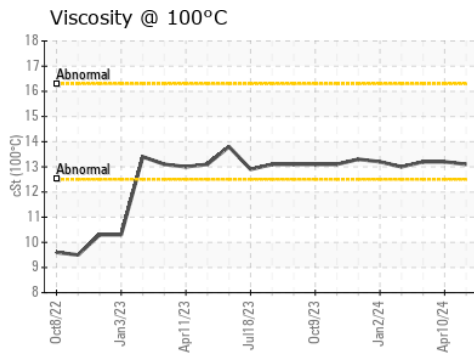
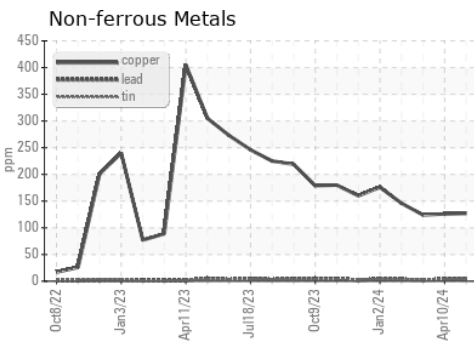
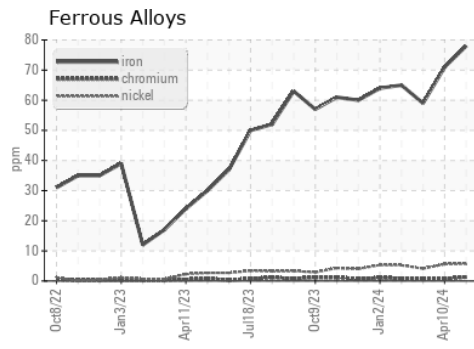
OIL ANALYSIS REPORT



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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.1	13.2	13.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0935443 **Received** : 09 May 2024
Lab Number : 06174894 **Tested** : 10 May 2024
Unique Number : 11020947 **Diagnosed** : 13 May 2024 - Angela Borella
Test Package : FLEET

LIBERTY DISPOSAL
 6401 S EASTERN AVE
 OKLAHOMA CITY, OK
 US 73149
 Contact: CATHY ROSA
 c.rosa@ldi89.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)