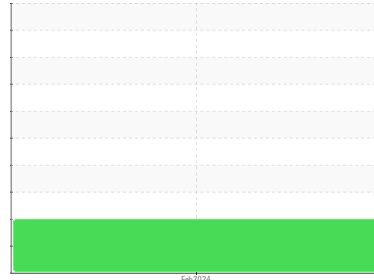


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
TAKEUCHI TB230RA 130008871
 Component
Diesel Engine
 Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)

DIAGNOSIS

Recommendation
 The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
 Metal levels are typical for a new component breaking in.

Contamination
 Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material.

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	ML0000777	---	---
Sample Date	Client Info	14 Feb 2024	---	---
Machine Age	hrs	265	---	---
Oil Age	hrs	250	---	---
Oil Changed	Client Info	Changed	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	NEG	---	---
Glycol	WC Method	NEG	---	---

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm	ASTM D5185m >100	67	---	---
Chromium ppm	ASTM D5185m >20	1	---	---
Nickel ppm	ASTM D5185m >4	<1	---	---
Titanium ppm	ASTM D5185m	<1	---	---
Silver ppm	ASTM D5185m >3	0	---	---
Aluminum ppm	ASTM D5185m >20	7	---	---
Lead ppm	ASTM D5185m >40	6	---	---
Copper ppm	ASTM D5185m >330	20	---	---
Tin ppm	ASTM D5185m >15	<1	---	---
Vanadium ppm	ASTM D5185m	<1	---	---
Cadmium ppm	ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron ppm	ASTM D5185m 2.5	51	---	---
Barium ppm	ASTM D5185m 0.0	23	---	---
Molybdenum ppm	ASTM D5185m 0.7	121	---	---
Manganese ppm	ASTM D5185m 0.0	2	---	---
Magnesium ppm	ASTM D5185m 256	43	---	---
Calcium ppm	ASTM D5185m 2057	4203	---	---
Phosphorus ppm	ASTM D5185m 935	1214	---	---
Zinc ppm	ASTM D5185m 1223	1432	---	---
Sulfur ppm	ASTM D5185m 4079	6664	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm	ASTM D5185m >25	▲ 75	---	---
Sodium ppm	ASTM D5185m	24	---	---
Potassium ppm	ASTM D5185m >20	3	---	---
Fuel %	ASTM D3524 >5	0.1	---	---

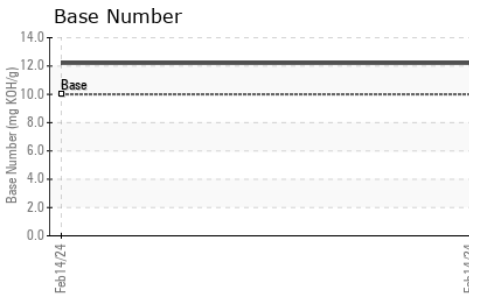
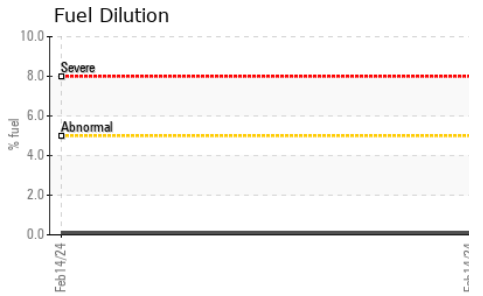
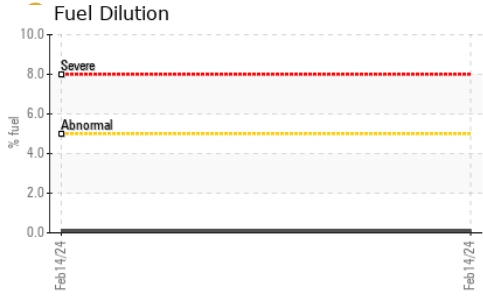
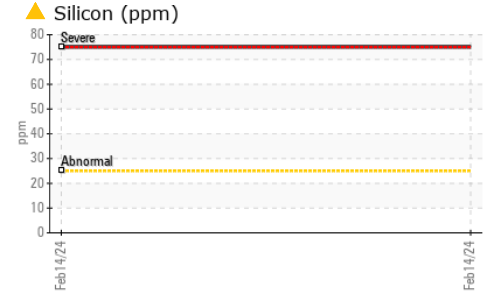
INFRA-RED

method	limit/base	current	history1	history2
Soot %	*ASTM D7844 >3	0.3	---	---
Nitration	*ASTM D7624 >20	7.1	---	---
Sulfation	*ASTM D7415 >30	16.2	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	9.3	---	---
Base Number (BN)	mg KOH/g ASTM D2896 10	12.2	---	---

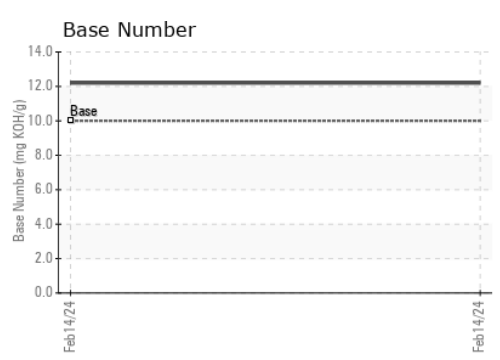
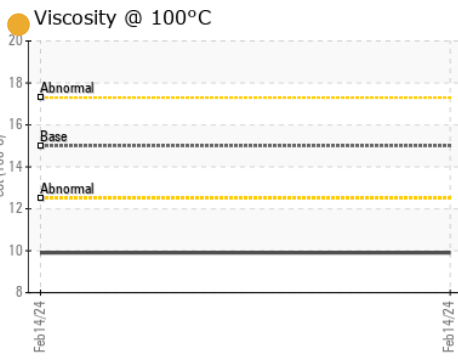
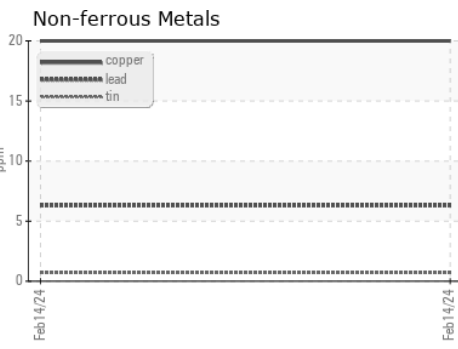
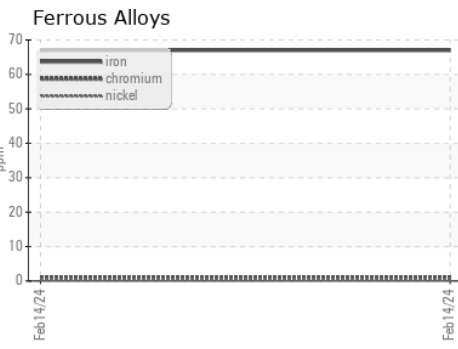
OIL ANALYSIS REPORT



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	LIGHT	---	---
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	15.0	9.9	---	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0000777
Lab Number : **06100725**
Unique Number : 10898955
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

MCCLUNG-LOGAN EQUIPMENT CO - CHESAPEAKE
 4112 HOLLAND BLVD
 CHESAPEAKE, VA
 US 23323
 Contact: TOMMY GRIFFIN
 tgriffin@mcclung-logan.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)