



WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ATTENTION



Machine Id
VOLVO EC350E 314527
Component
Diesel Engine
Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (14 GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ML0002152	VCP422157	VCP404403
Sample Date		Client Info		13 Jun 2024	11 Dec 2023	20 Jul 2023
Machine Age	hrs	Client Info		5187	3430	2038
Oil Age	hrs	Client Info		5187	0	0
Filter Age	hrs	Client Info		5187	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	16	16	8
Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	2	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	2	2	<1
Lead	ppm	ASTM D5185m	>20	3	4	3
Copper	ppm	ASTM D5185m	>15	5	14	▲ 22
Tin	ppm	ASTM D5185m	>10	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

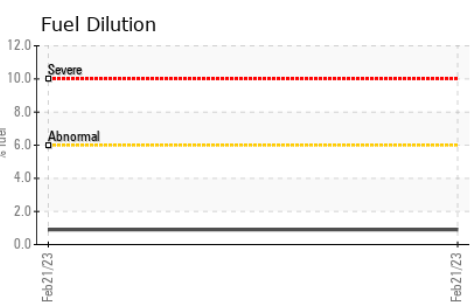
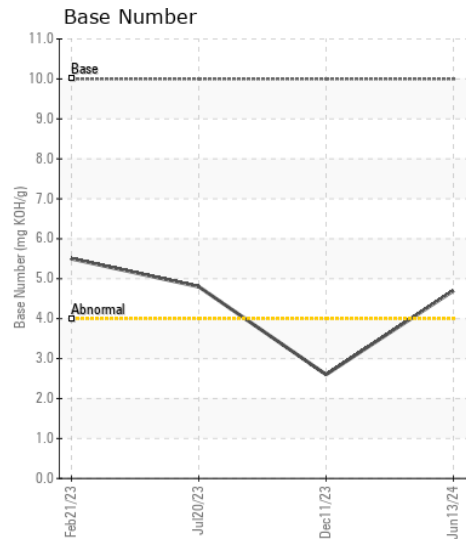
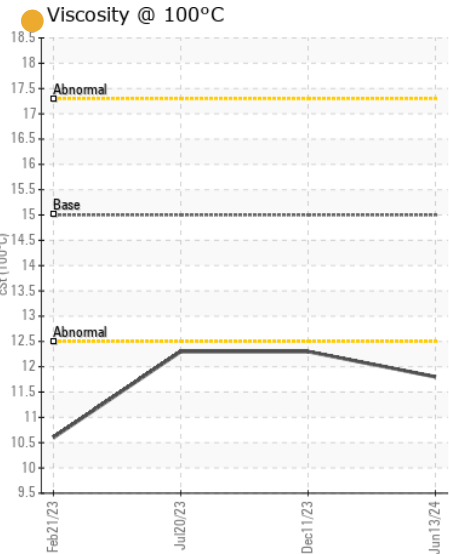
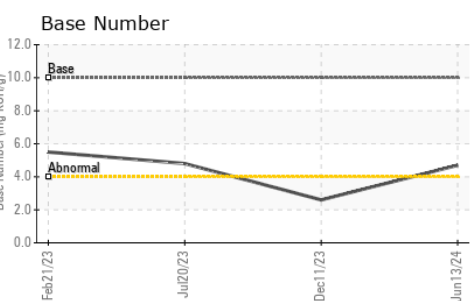
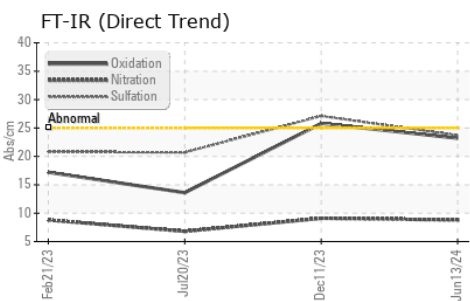
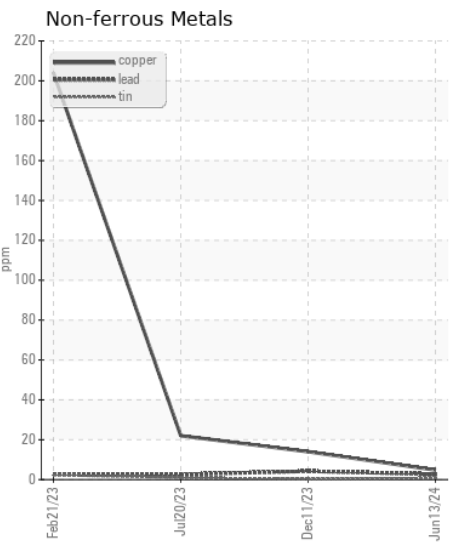
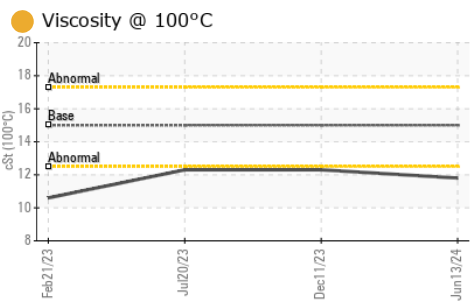
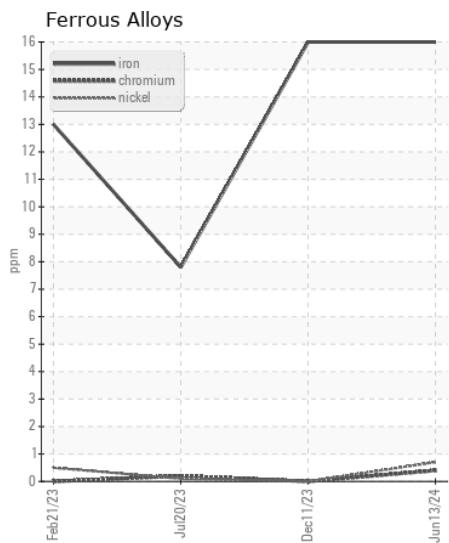
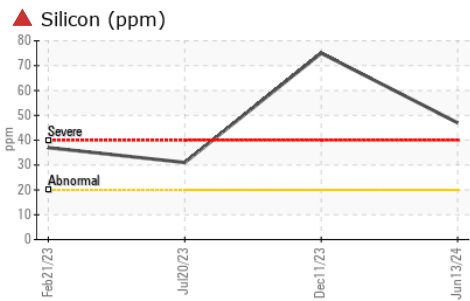
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>20	▲ 47	▲ 75	▲ 31
Potassium	ppm	ASTM D5185m	>20	2	<1	<1
Fuel	%	ASTM D3524	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.8	9.1	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.7	27.1	20.7
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	>0.1	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m		<1	8	6
Boron	ppm	ASTM D5185m	2.5	46	33	4
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	0.7	94	77	13
Manganese	ppm	ASTM D5185m	0.0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	256	587	400	111
Calcium	ppm	ASTM D5185m	2057	1547	1652	2293
Phosphorus	ppm	ASTM D5185m	935	809	1042	872
Zinc	ppm	ASTM D5185m	1223	1074	1310	1120
Sulfur	ppm	ASTM D5185m	4079	2411	2552	4010
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.2	25.8	13.6
Base Number (BN)	mg KOH/g	ASTM D2896	10	4.7	▲ 2.6	4.8
Visc @ 100°C	cSt	ASTM D445	15.0	● 11.8	● 12.3	● 12.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0002152 **Received** : 20 Jun 2024
Lab Number : 06216433 **Tested** : 23 Jun 2024
Unique Number : 11089297 **Diagnosed** : 23 Jun 2024 - Don Baldrige
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

RECYCLE 1
 4700 LAWRENCE ST
 HYATTSVILLE, MD
 US 20781
 Contact: MIKE DESJARDINS
 mdesjarkins@wbwaste.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)