



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
[CITY OF TAMPA]
 Machine Id
VOLVO EW160 323426
 Component
Diesel Engine
 Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP446181	VCP437896	VCP428685
Sample Date		Client Info		22 May 2024	28 Feb 2024	08 Dec 2023
Machine Age	hrs	Client Info		6234	5275	5787
Oil Age	hrs	Client Info		0	500	700
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	2	4	6
Chromium	ppm	ASTM D5185m	>10	0	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>10	2	2	3
Lead	ppm	ASTM D5185m	>20	<1	<1	0
Copper	ppm	ASTM D5185m	>15	<1	1	1
Tin	ppm	ASTM D5185m	>10	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

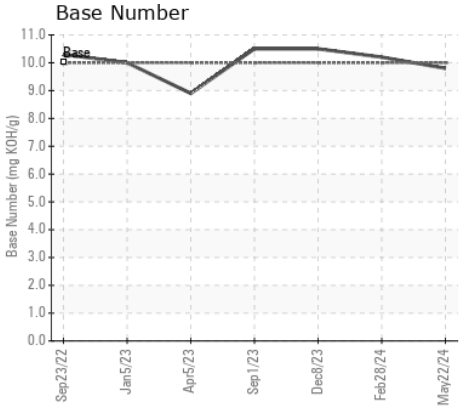
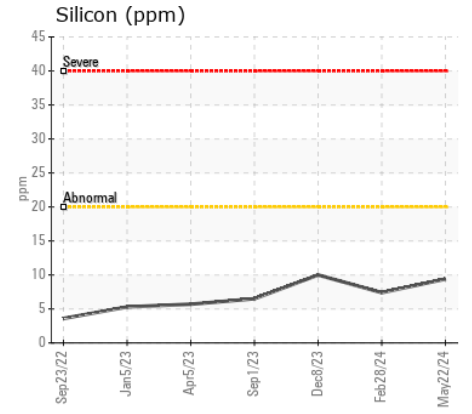
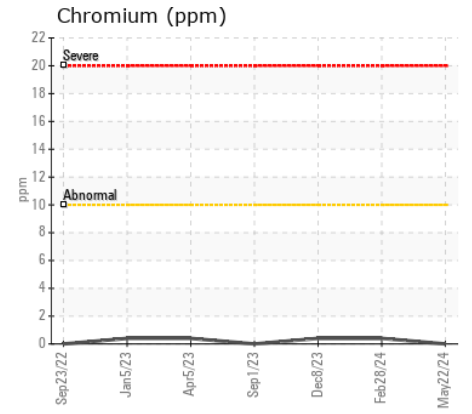
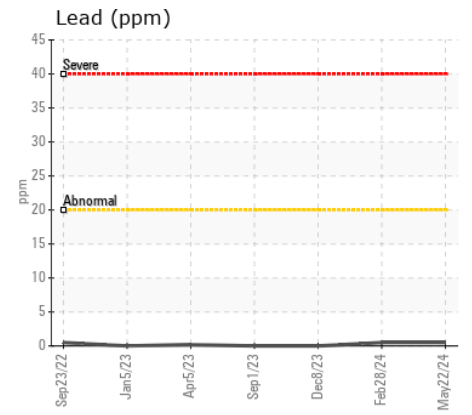
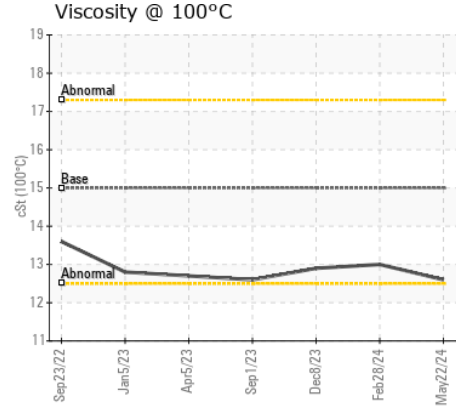
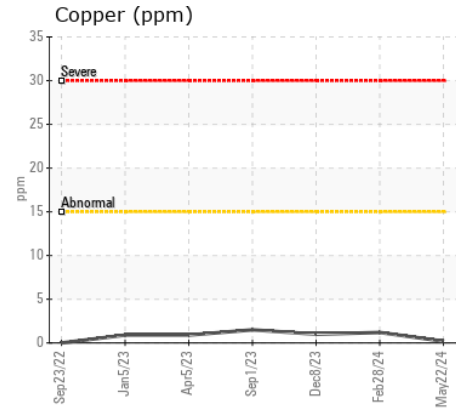
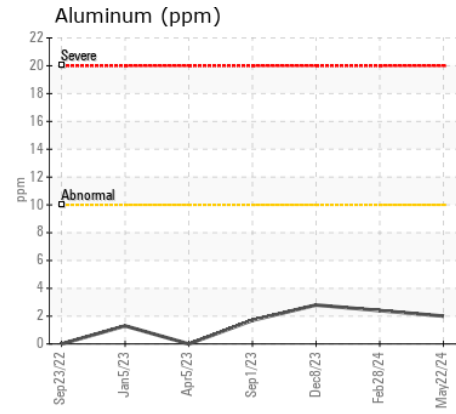
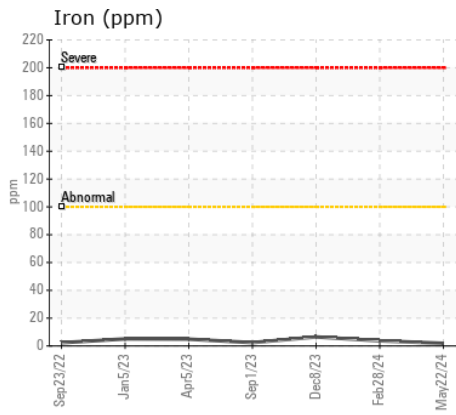
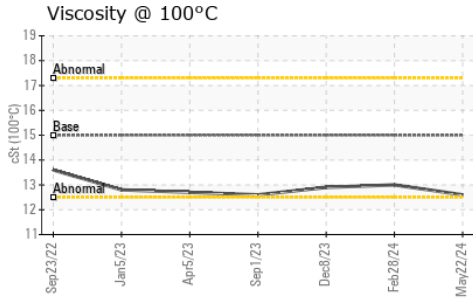
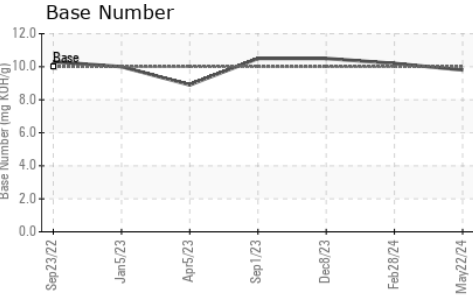
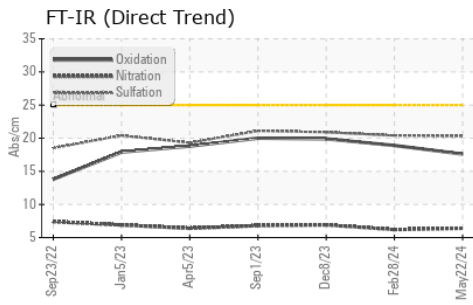
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	9	7	10
Potassium	ppm	ASTM D5185m	>20	2	2	0
Fuel		WC Method	>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	6.4	6.2	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	20.4	20.9
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	1	2
Boron	ppm	ASTM D5185m	2.5	48	48	38
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	0.7	41	45	38
Manganese	ppm	ASTM D5185m	0.0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	256	603	525	468
Calcium	ppm	ASTM D5185m	2057	1520	1613	1705
Phosphorus	ppm	ASTM D5185m	935	944	923	894
Zinc	ppm	ASTM D5185m	1223	1092	1085	1026
Sulfur	ppm	ASTM D5185m	4079	3437	3068	2845
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.6	18.9	19.9
Base Number (BN)	mg KOH/g	ASTM D2896	10	9.8	10.2	10.5
Visc @ 100°C	cSt	ASTM D445	15.0	12.6	13.0	12.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP446181
Lab Number : 06193687
Unique Number : 11050439
Test Package : MOB 1 (Additional Tests: TBN)

Received : 29 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 2024 - Wes Davis

ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC
 8418 PALM RIVER ROAD
 TAMPA, FL
 US 33619
 Contact: KENNY HANEY
 khaney@flaglerce.com
 T: (813)630-0077
 F: (813)630-2233

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)