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VOLVO

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
[386957]
Machine Id
16-8002
Component
Diesel Engine
Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- 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.

WEAR

All component wear rates are normal.

CONTAMINATION

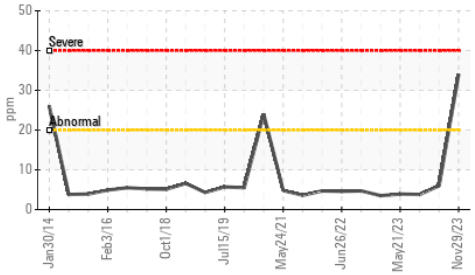
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

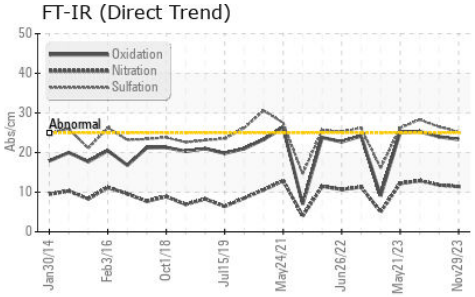
The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**VCP391895**	VCP380504	VCP394759
Sample Date		Client Info		**29 Nov 2023**	06 Oct 2023	04 Aug 2023
Machine Age	hrs	Client Info		**18500**	18004	17470
Oil Age	hrs	Client Info		**500**	500	500
Filter Age	hrs	Client Info		**500**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>100	**31**	13	13
Chromium	ppm	ASTM D5185(m)	>10	**1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>10	**<1**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>10	**9**	2	1
Lead	ppm	ASTM D5185(m)	>20	**4**	3	4
Copper	ppm	ASTM D5185(m)	>15	**1**	<1	<1
Tin	ppm	ASTM D5185(m)	>10	**<1**	<1	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Silicon	ppm	ASTM D5185(m)	>20	▲ **34**	6	4
Potassium	ppm	ASTM D5185(m)	>20	**2**	<1	<1
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	**0.5**	0.6	0.9
Nitration	Abs/cm	ASTM D7624*	>20	**11.4**	11.8	12.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.2**	26.5	28.3
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185(m)		**4**	2	3
Boron	ppm	ASTM D5185(m)	2.5	**14**	10	14
Barium	ppm	ASTM D5185(m)	0.0	**<1**	<1	0
Molybdenum	ppm	ASTM D5185(m)	0.7	**56**	53	58
Manganese	ppm	ASTM D5185(m)	0.0	**<1**	0	<1
Magnesium	ppm	ASTM D5185(m)	256	**863**	777	829
Calcium	ppm	ASTM D5185(m)	2057	**1606**	1339	1553
Phosphorus	ppm	ASTM D5185(m)	935	**1040**	977	1140
Zinc	ppm	ASTM D5185(m)	1223	**1230**	1170	1269
Sulfur	ppm	ASTM D5185(m)	4079	**2471**	2396	2991
Oxidation	Abs/.1mm	ASTM D7414*	>25	**23.3**	24.0	25.3
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	**14.3**	12.3	14.9

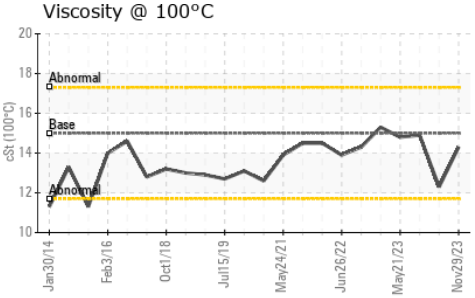
Silicon (ppm)



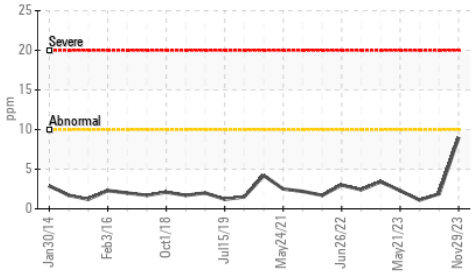
FT-IR (Direct Trend)



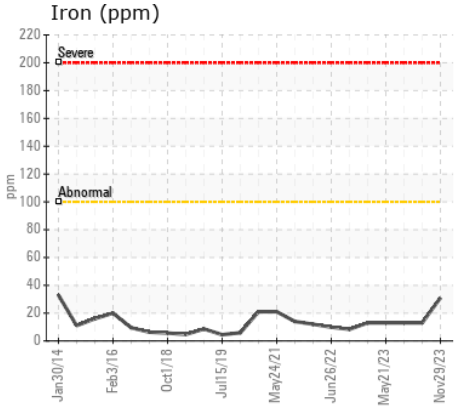
Viscosity @ 100°C



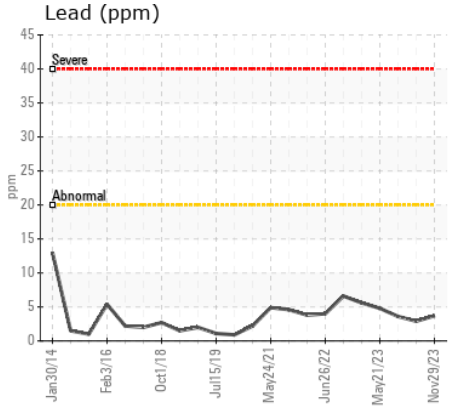
Aluminum (ppm)



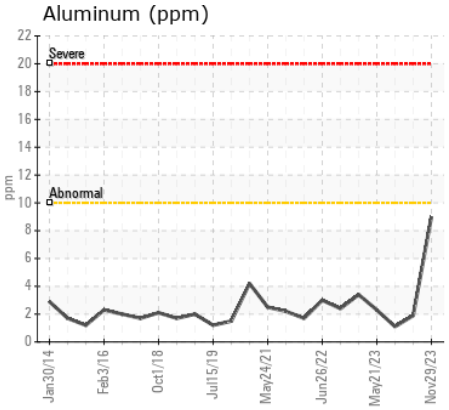
Iron (ppm)



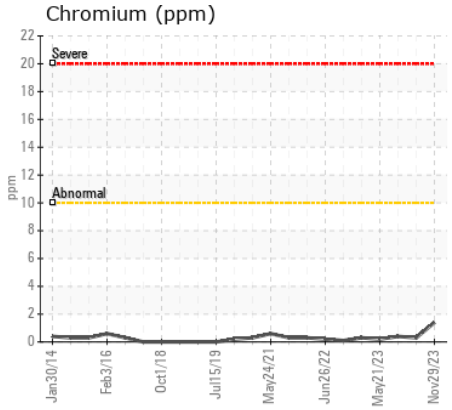
Lead (ppm)



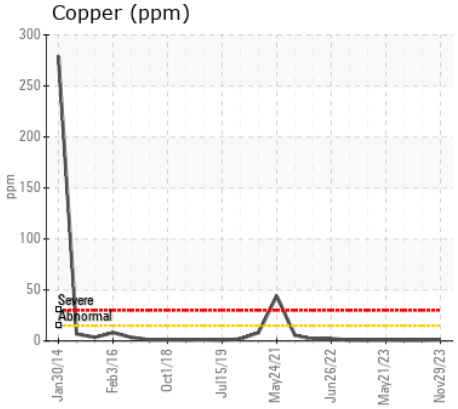
Aluminum (ppm)



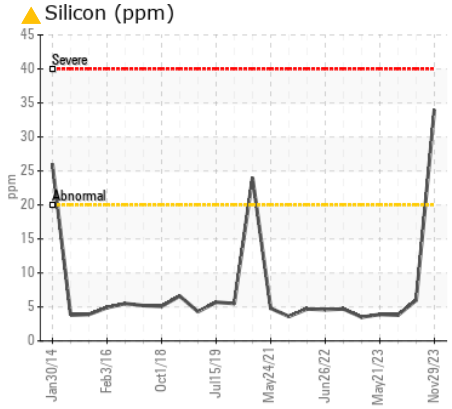
Chromium (ppm)



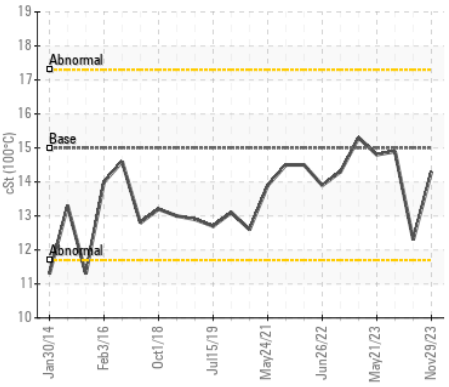
Copper (ppm)



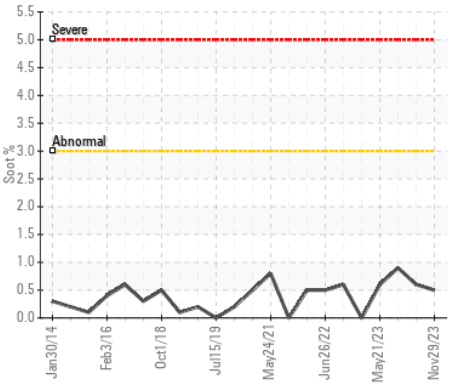
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9		
Sample No.	: VCP391895	**Received**	: 13 Dec 2023
Lab Number	: 02602805	**Tested**	: 13 Dec 2023
Unique Number	: 5695890	**Diagnosed**	: 14 Dec 2023 - Kevin Marson
Test Package	: MOB 1		

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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