



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
VOLVO SD-116DX 001785 (S/N 199019)
 Component
Diesel Engine
 Fluid
CASTROL VECTON 15W40 CK4 (23 GAL)

RECOMMENDATION

The oil 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		WC0856175	WC0700987	WC0463858
Sample Date		Client Info		02 Jul 2024	15 Aug 2022	08 Jul 2020
Machine Age	hrs	Client Info		3903	3593	3039
Oil Age	hrs	Client Info		310	554	500
Filter Age	hrs	Client Info		310	554	500
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	39	57	20
Chromium	ppm	ASTM D5185m	>20	2	2	1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	4	6	2
Lead	ppm	ASTM D5185m	>40	<1	3	3
Copper	ppm	ASTM D5185m	>330	79	59	4
Tin	ppm	ASTM D5185m	>15	0	2	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

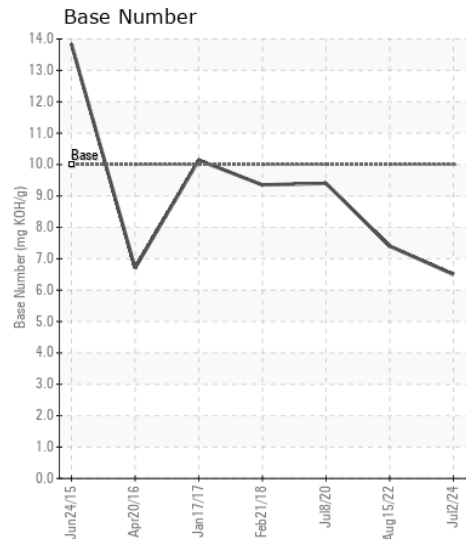
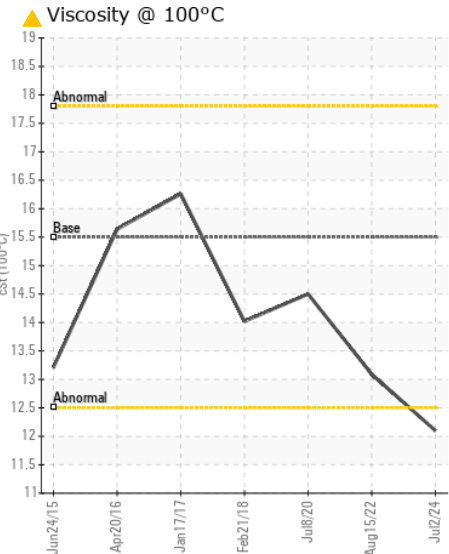
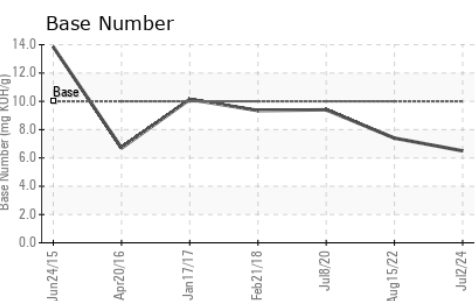
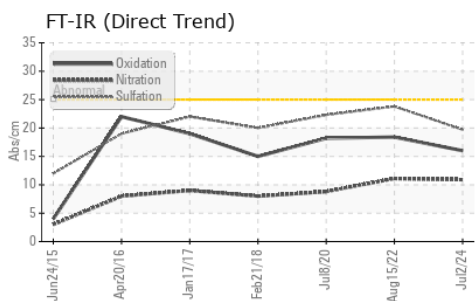
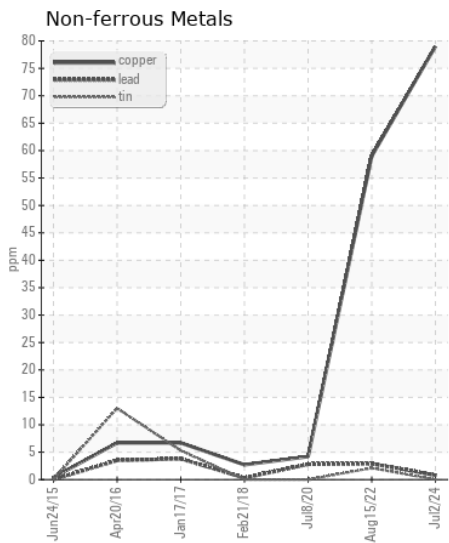
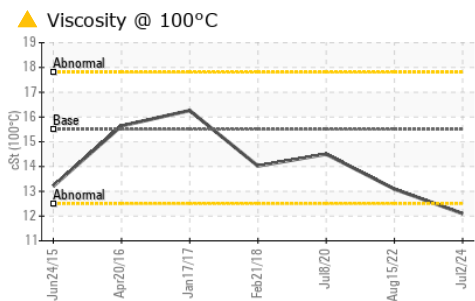
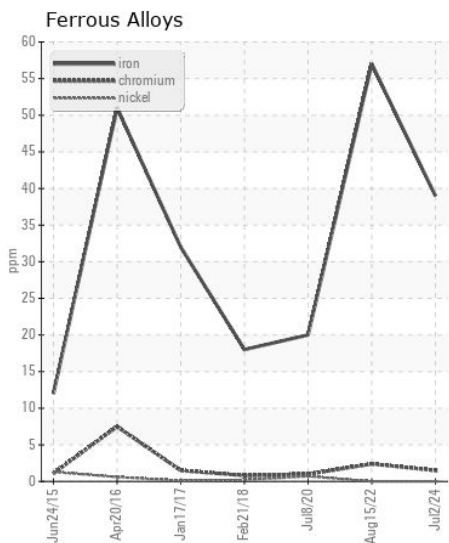
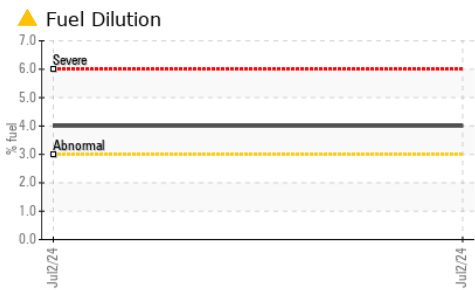
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	10	▲ 49	6
Potassium	ppm	ASTM D5185m	>20	3	8	0
Fuel	%	ASTM D3524	>3.0	▲ 4.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.6	2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.9	11.1	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7	23.8	22.3
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		5	5	3
Boron	ppm	ASTM D5185m		37	42	65
Barium	ppm	ASTM D5185m		3	20	0
Molybdenum	ppm	ASTM D5185m		84	70	62
Manganese	ppm	ASTM D5185m		2	8	<1
Magnesium	ppm	ASTM D5185m		83	65	756
Calcium	ppm	ASTM D5185m		2430	2631	1683
Phosphorus	ppm	ASTM D5185m		1044	994	1105
Zinc	ppm	ASTM D5185m		1240	1155	1243
Sulfur	ppm	ASTM D5185m		3812	3595	2804
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.0	18.4	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	10	6.5	7.4	9.4
Visc @ 100°C	cSt	ASTM D445	15.5	▲ 12.1	13.09	14.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0856175 **Received** : 09 Jul 2024
Lab Number : 06231343 **Tested** : 11 Jul 2024
Unique Number : 11114836 **Diagnosed** : 11 Jul 2024 - Wes Davis
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

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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)