



ASCENDUM

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area

Ascendum Machinery/250 Hour CSA

Machine Id

CATERPILLAR 320C L UTIL 1155 (S/N PAC01284)

Component

Diesel Engine

Fluid

VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ASC0007464	VCP0005792	VCP0002016
Sample Date		Client Info		17 Apr 2024	25 May 2023	15 Aug 2022
Machine Age	hrs	Client Info		11977	11977	11977
Oil Age	hrs	Client Info		11977	11977	11977
Filter Age	hrs	Client Info		0	0	11977
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	6	11	13
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	▲ 2
Aluminum	ppm	ASTM D5185m	>25	1	5	2
Lead	ppm	ASTM D5185m	>40	0	0	2
Copper	ppm	ASTM D5185m	>330	<1	0	1
Tin	ppm	ASTM D5185m	>15	0	0	1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

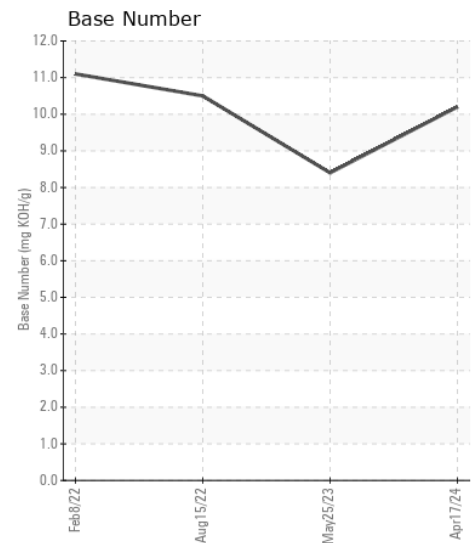
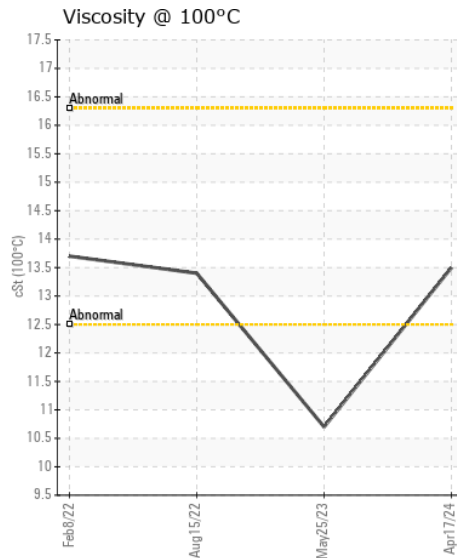
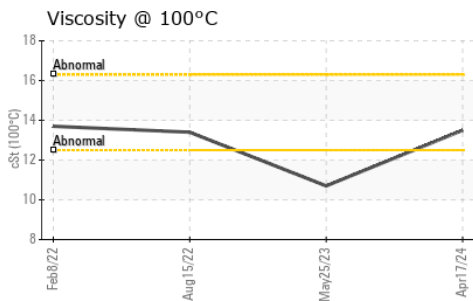
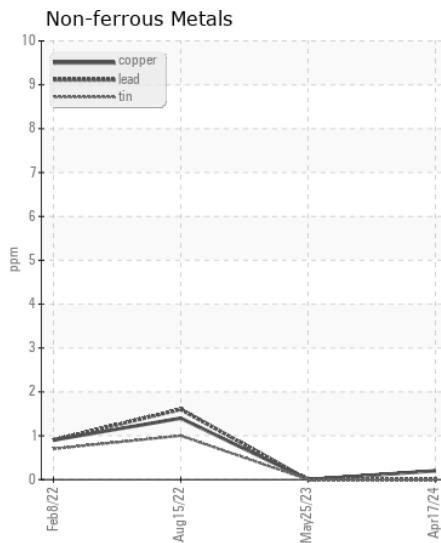
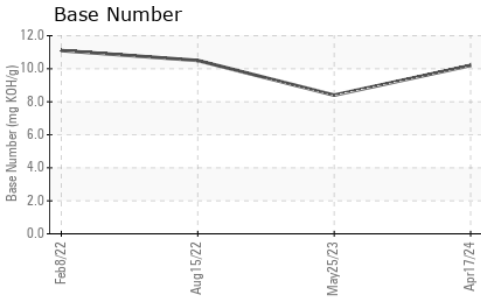
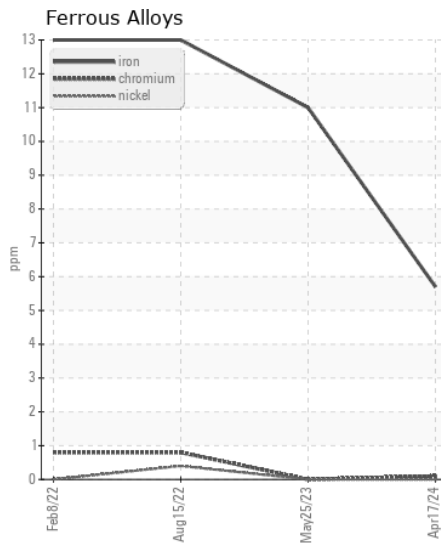
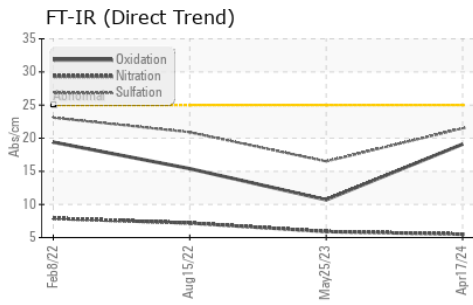
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	6	4
Potassium	ppm	ASTM D5185m	>20	<1	0	3
Fuel		WC Method	>5	<1.0	0.4	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.5	0.9
Nitration	Abs/cm	*ASTM D7624	>20	5.5	5.9	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	16.5	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	>0.2	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		2	<1	3
Boron	ppm	ASTM D5185m		54	11	26
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		43	37	45
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m		584	513	645
Calcium	ppm	ASTM D5185m		1585	2026	1489
Phosphorus	ppm	ASTM D5185m		974	955	912
Zinc	ppm	ASTM D5185m		1184	1170	1150
Sulfur	ppm	ASTM D5185m		3691	3731	2828
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.1	10.7	15.4
Base Number (BN)	mg KOH/g	ASTM D2896		10.2	8.4	10.5
Visc @ 100°C	cSt	ASTM D445		13.5	● 10.7	13.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ASC0007464 **Received** : 23 Apr 2024
Lab Number : 06157460 **Tested** : 24 Apr 2024
Unique Number : 10992883 **Diagnosed** : 24 Apr 2024 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

TRIANGLE GRADING AND PAVING INC
 1521 Huffman Mill Rd
 BURLINGTON, NC
 US 27216
 Contact: ADAM CORBETT
 wacorbett@trianglegradingpaving.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)

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