



ASCENDUM

OIL ANALYSIS REPORT

WEAR **NORMAL**

CONTAMINATION **NORMAL**

FLUID CONDITION **NORMAL**



Area

Ascendum Machinery/250 Hour CSA

Machine Id

CATERPILLAR D6M XL 537 (S/N 9ZM00395)

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		ASC0007056	VCP425931	VCP0002815
Sample Date		Client Info		11 Apr 2024	20 Jul 2023	02 Jan 2023
Machine Age	hrs	Client Info		17076	17076	16650
Oil Age	hrs	Client Info		17076	550	15
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	17	22	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	0
Lead	ppm	ASTM D5185m	>40	2	<1	<1
Copper	ppm	ASTM D5185m	>330	2	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	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.

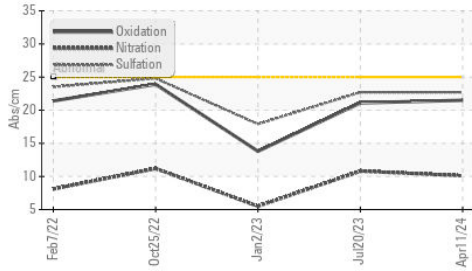
Silicon	ppm	ASTM D5185m	>25	6	4	2
Potassium	ppm	ASTM D5185m	>20	2	0	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.3	0.1
Nitration	Abs/cm	*ASTM D7624	>20	10.1	10.8	5.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	22.7	17.9
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

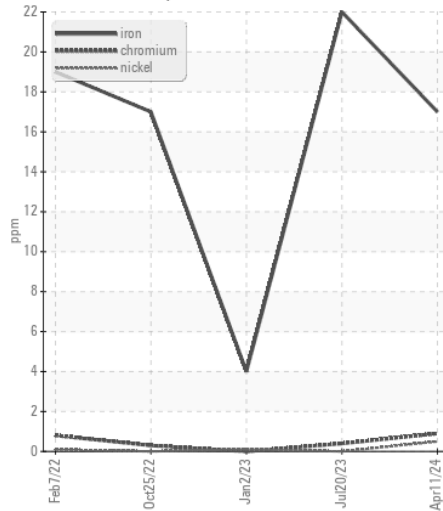
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		1	2	<1
Boron	ppm	ASTM D5185m		41	11	97
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		61	73	61
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		853	1062	890
Calcium	ppm	ASTM D5185m		1429	1268	1148
Phosphorus	ppm	ASTM D5185m		1130	1150	1038
Zinc	ppm	ASTM D5185m		1328	1419	1218
Sulfur	ppm	ASTM D5185m		3574	3949	3453
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.5	21.1	13.8
Base Number (BN)	mg KOH/g	ASTM D2896		7.7	7.9	9.6
Visc @ 100°C	cSt	ASTM D445		14.0	14.3	14.5

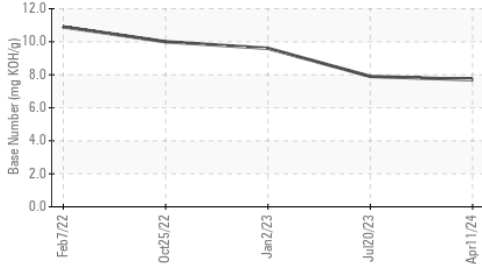
FT-IR (Direct Trend)



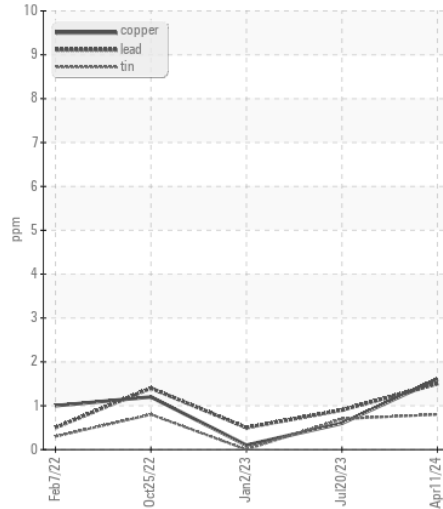
Ferrous Alloys



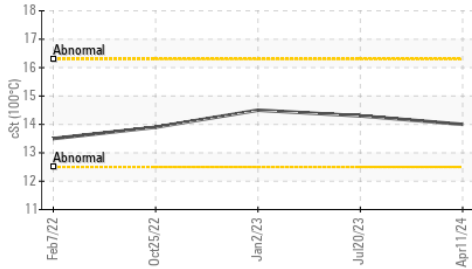
Base Number



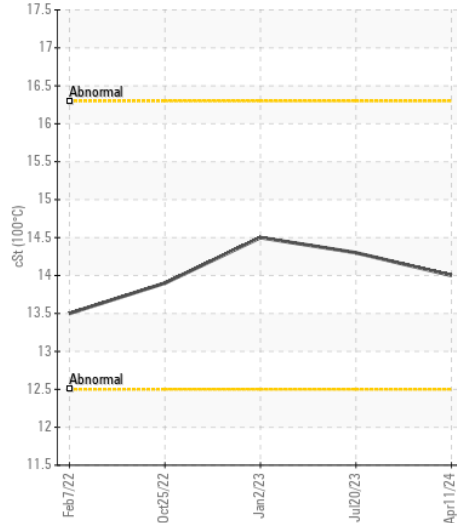
Non-ferrous Metals



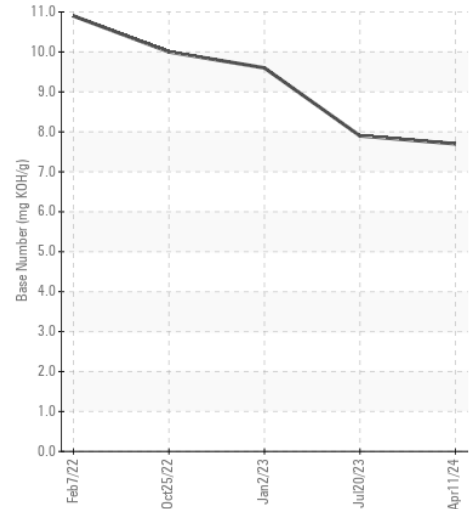
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ASC0007056
Lab Number : 06148387
Unique Number : 10978465
Test Package : CONST (Additional Tests: TBN)

TRIANGLE GRADING AND PAVING INC
 1521 Huffman Mill Rd
 BURLINGTON, NC
 US 27216
 Contact: KAREN HILLIARD
 khilliard@trianglegradingpaving.com
 T: (336)584-1745
 F: (336)584-0145

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)