



ASCENDUM

OIL ANALYSIS REPORT



Area
Ascendum Machinery/250 Hour CSA
 Machine Id
CATERPILLAR D5M 1145 (S/N 5ES00650)
 Component
Hydraulic System
 Fluid
VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ASC0007034	VCP0007312	VCP0002844
Sample Date		Client Info		17 Apr 2024	27 Feb 2023	02 Jan 2023
Machine Age	hrs	Client Info		4070	270	4070
Oil Age	hrs	Client Info		3800	0	4070
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Changed	Not Chngd
Filter Changed		Client Info		Not Chngd	Changed	Not Chngd
Sample Status				ABNORMAL	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	4	4	6
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>10	2	2	2
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>75	2	1	3
Tin	ppm	ASTM D5185m	>10	<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

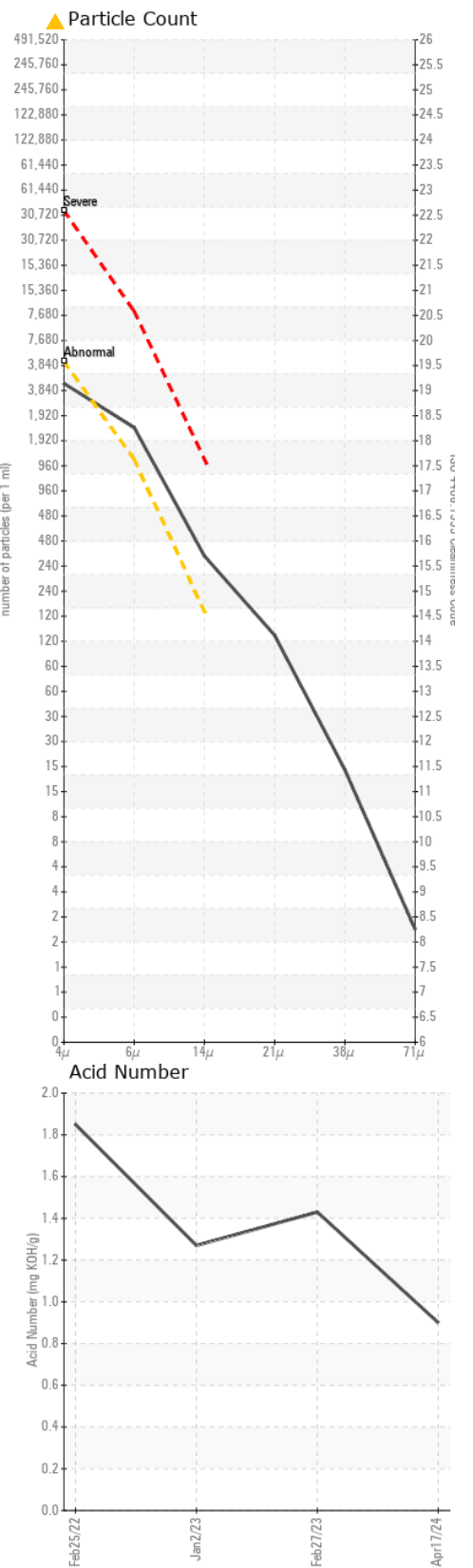
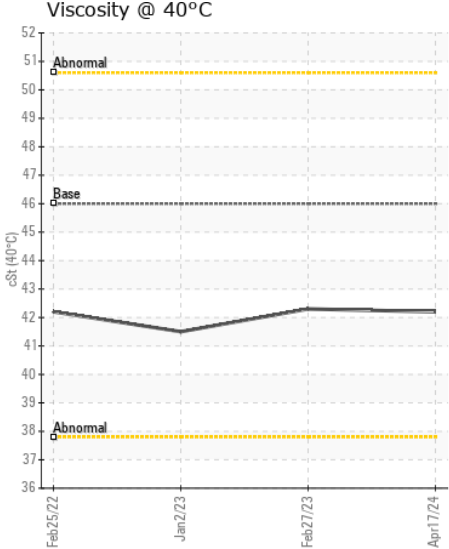
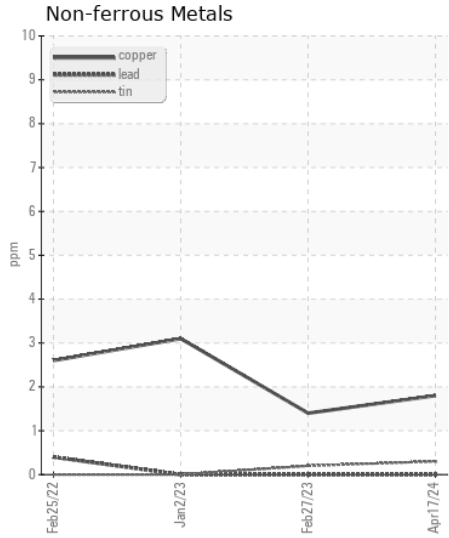
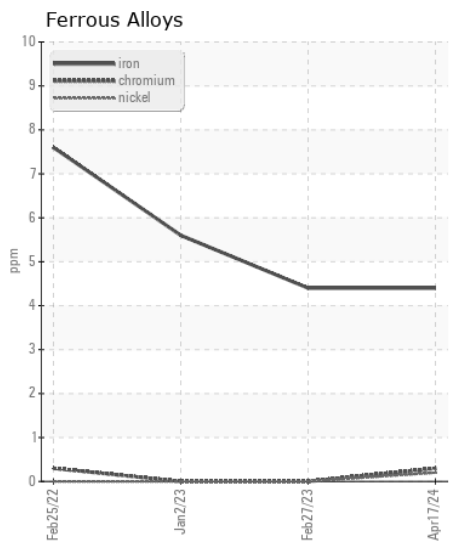
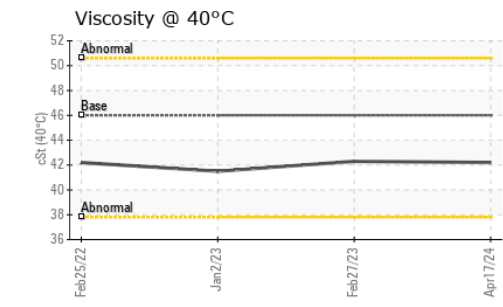
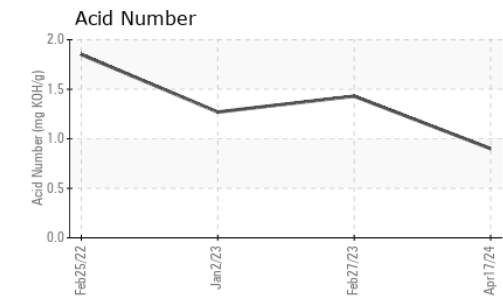
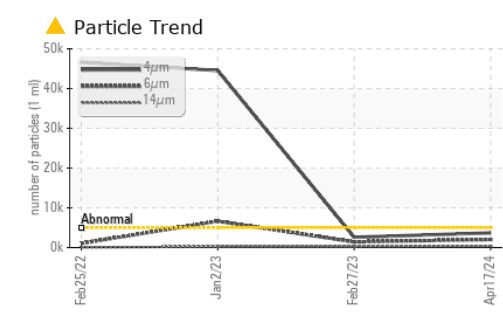
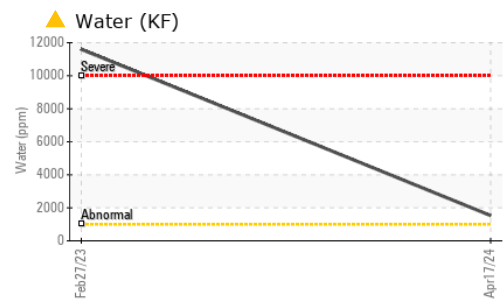
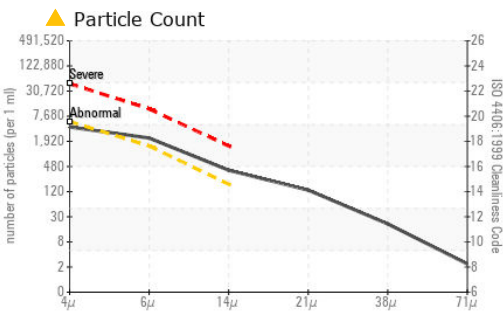
There is a high amount of particulates present in the oil. There is a light concentration of water present in the oil.

Silicon	ppm	ASTM D5185m	>20	9	9	7
Potassium	ppm	ASTM D5185m	>20	2	0	0
Water	%	ASTM D6304	>0.1	▲ 0.153	▲ 1.16	---
ppm Water	ppm	ASTM D6304	>1000	▲ 1530	▲ 11600	---
Particles >4µm		ASTM D7647	>5000	3697	2601	▲ 44529
Particles >6µm		ASTM D7647	>1300	▲ 2014	● 1417	▲ 6636
Particles >14µm		ASTM D7647	>160	▲ 343	● 241	▲ 241
Particles >21µm		ASTM D7647	>40	▲ 115	● 81	▲ 54
Particles >38µm		ASTM D7647	>10	▲ 18	● 13	1
Particles >71µm		ASTM D7647	>3	2	1	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 19/18/16	● 19/18/15	▲ 23/20/15
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	● MILKY	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	0.2%	▲ 0.2%	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	<1	<1
Boron	ppm	ASTM D5185m	14	2	16	4
Barium	ppm	ASTM D5185m	0.0	<1	0	0
Molybdenum	ppm	ASTM D5185m	0.0	2	6	3
Manganese	ppm	ASTM D5185m	0.0	0	<1	<1
Magnesium	ppm	ASTM D5185m	2.6	44	188	301
Calcium	ppm	ASTM D5185m	49	1274	1920	1394
Phosphorus	ppm	ASTM D5185m	354	594	691	731
Zinc	ppm	ASTM D5185m	419	754	828	838
Sulfur	ppm	ASTM D5185m	3719	2503	2646	2971
Acid Number (AN)	mg KOH/g	ASTM D8045		0.90	1.43	1.27
Visc @ 40°C	cSt	ASTM D445	46	42.2	42.3	41.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ASC0007034 **Received** : 23 Apr 2024
Lab Number : 06157622 **Tested** : 29 Apr 2024
Unique Number : 10993045 **Diagnosed** : 29 Apr 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: KF)
 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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