



# ASCENDUM

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area  
**Ascendum Machinery/250 Hour CSA**  
Machine Id  
**CATERPILLAR D5M 1657 (S/N 3DR00800)**  
Component  
**Hydraulic System**  
Fluid  
**VOLVO SUPER HYDRAULIC OIL 46 (9 GAL)**

### RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ASC0007329	VCP0007219	VCP0002292
Sample Date		Client Info		23 Apr 2024	06 Feb 2023	24 Jun 2022
Machine Age	hrs	Client Info		1000	750	500
Oil Age	hrs	Client Info		1000	750	500
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	25	15	16
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	<1	<1
Aluminum	ppm	ASTM D5185m	>10	8	7	7
Lead	ppm	ASTM D5185m	>10	0	0	<1
Copper	ppm	ASTM D5185m	>75	15	17	15
Tin	ppm	ASTM D5185m	>10	0	0	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

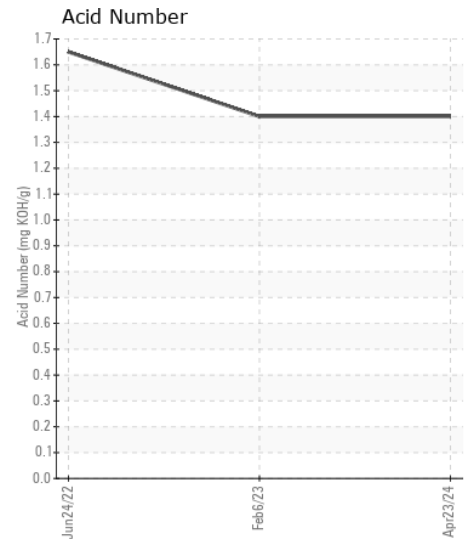
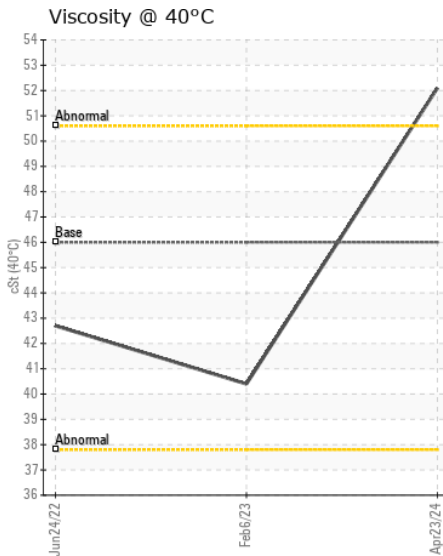
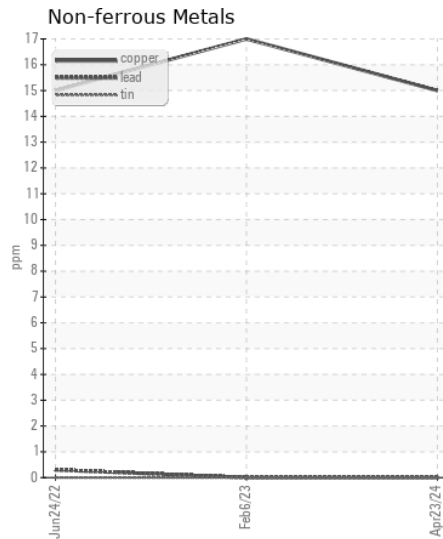
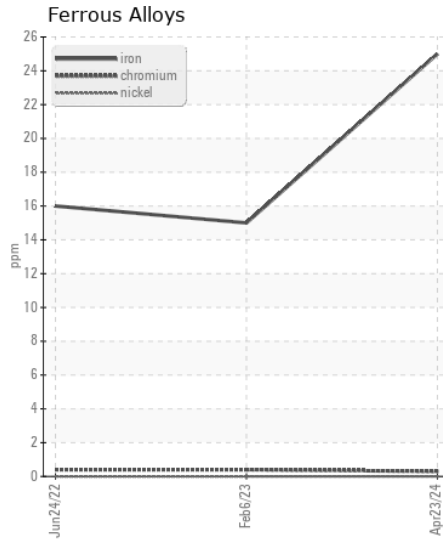
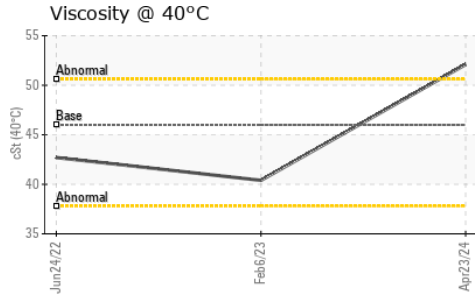
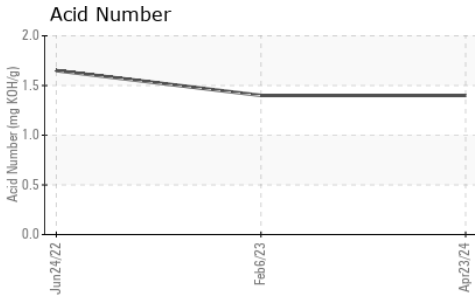
Moderate concentration of visible dirt/debris present in the oil.

Silicon	ppm	ASTM D5185m	>20	15	14	14
Potassium	ppm	ASTM D5185m	>20	<1	0	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	---	▲ 58537	▲ 86368
Particles >6µm		ASTM D7647	>1300	---	▲ 3044	▲ 5407
Particles >14µm		ASTM D7647	>160	---	15	35
Particles >21µm		ASTM D7647	>40	---	1	4
Particles >38µm		ASTM D7647	>10	---	0	0
Particles >71µm		ASTM D7647	>3	---	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	---	▲ 23/19/11	▲ 24/20/12
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	▲ MODER	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	>0.1	NEG	NEG	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		3	2	0
Boron	ppm	ASTM D5185m	14	12	16	19
Barium	ppm	ASTM D5185m	0.0	0	<1	0
Molybdenum	ppm	ASTM D5185m	0.0	3	3	2
Manganese	ppm	ASTM D5185m	0.0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	2.6	468	622	613
Calcium	ppm	ASTM D5185m	49	1903	1357	1325
Phosphorus	ppm	ASTM D5185m	354	994	949	997
Zinc	ppm	ASTM D5185m	419	1154	1126	1162
Sulfur	ppm	ASTM D5185m	3719	5979	4308	3650
Acid Number (AN)	mg KOH/g	ASTM D8045		1.40	1.40	1.65
Visc @ 40°C	cSt	ASTM D445	46	52.1	40.4	42.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ASC0007329  
**Lab Number** : 06160273  
**Unique Number** : 10995696  
**Test Package** : CONST

**Received** : 25 Apr 2024  
**Tested** : 26 Apr 2024  
**Diagnosed** : 26 Apr 2024 - Don Baldrige

**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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