CONST

CHALMERS
Lubrication Service
(704) 660-LUBE(5823)

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR 303.5 3019 (S/N FLZ00989)
Component
Hydraulic System
Fluid
FIRE-RESISTANT FLUID ISO 46 (--- QTS)

RECOMMENDATION

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

The iron level is abnormal. All other component wear rates are normal.

CONTAMINATION

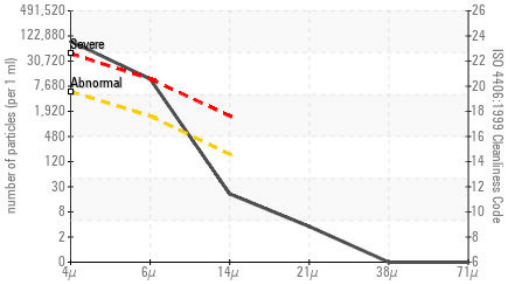
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

FLUID CONDITION

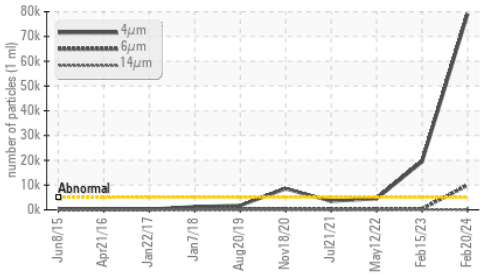
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		CL0005197	CL0004024	CL0003190
Sample Date		Client Info		20 Feb 2024	15 Feb 2023	12 May 2022
Machine Age	hrs	Client Info		7565	6850	6365
Oil Age	hrs	Client Info		7565	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>20	▲ 27	21	18
Chromium	ppm	ASTM D5185m	>10	2	2	1
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	7	6	5
Lead	ppm	ASTM D5185m	>10	2	0	0
Copper	ppm	ASTM D5185m	>75	8	7	6
Tin	ppm	ASTM D5185m	>10	2	<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
Silicon	ppm	ASTM D5185m	>20	11	8	7
Potassium	ppm	ASTM D5185m	>20	1	0	<1
Water	%	ASTM D6304	>55	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	▲ 79067	▲ 19425	4505
Particles >6µm		ASTM D7647	>1300	▲ 9934	367	207
Particles >14µm		ASTM D7647	>160	18	14	17
Particles >21µm		ASTM D7647	>40	3	5	4
Particles >38µm		ASTM D7647	>10	0	1	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 23/20/11	▲ 21/16/11	19/15/11
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	>55	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		3	3	2
Boron	ppm	ASTM D5185m	5	0	0	2
Barium	ppm	ASTM D5185m	5	0	0	0
Molybdenum	ppm	ASTM D5185m	5	<1	<1	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	5	3	4	5
Calcium	ppm	ASTM D5185m	50	71	69	73
Phosphorus	ppm	ASTM D5185m	175	394	367	382
Zinc	ppm	ASTM D5185m	62	514	465	450
Sulfur	ppm	ASTM D5185m	500	1993	2063	1466
Acid Number (AN)	mg KOH/g	ASTM D8045	3.63	0.70	0.44	0.44
Visc @ 40°C	cSt	ASTM D445	46	43.6	43.7	43.2

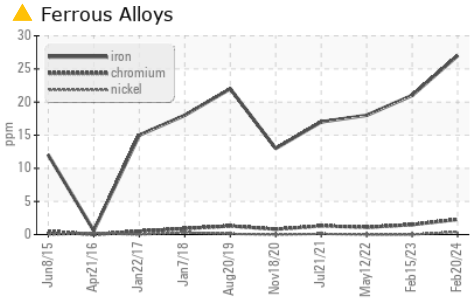
Particle Count



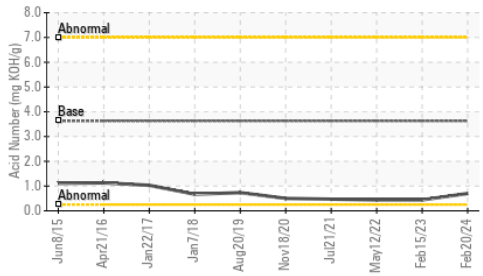
Particle Trend



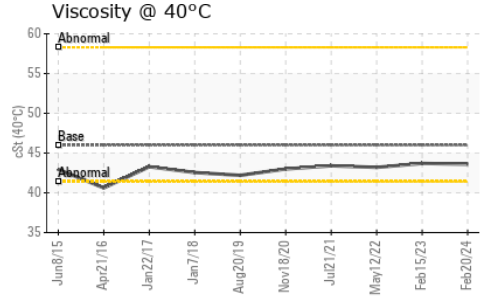
Ferrous Alloys



Acid Number



Viscosity @ 40°C



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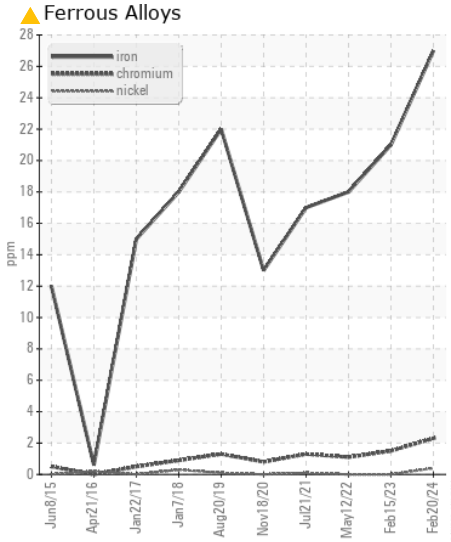
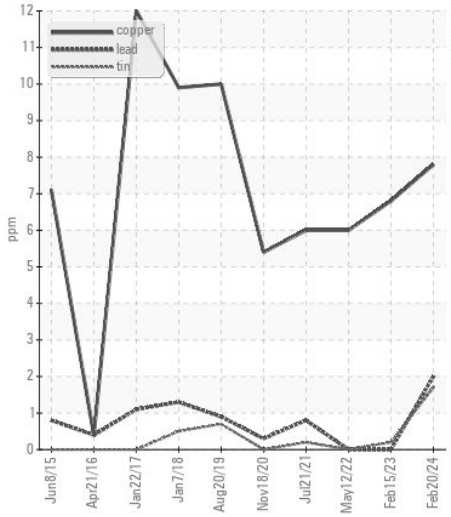


Non-ferrous Metals



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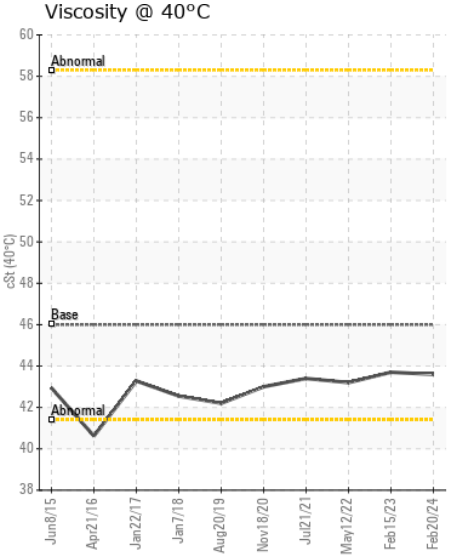
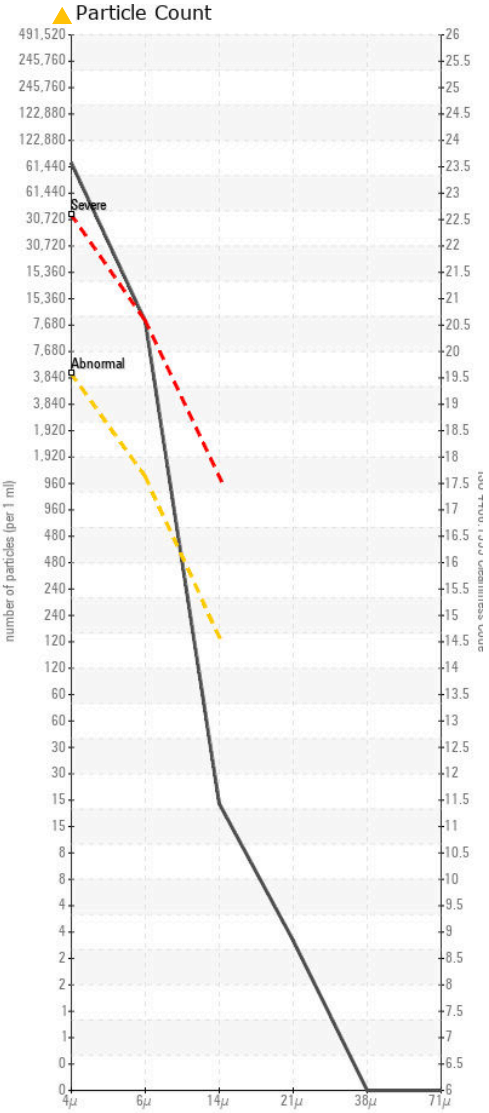
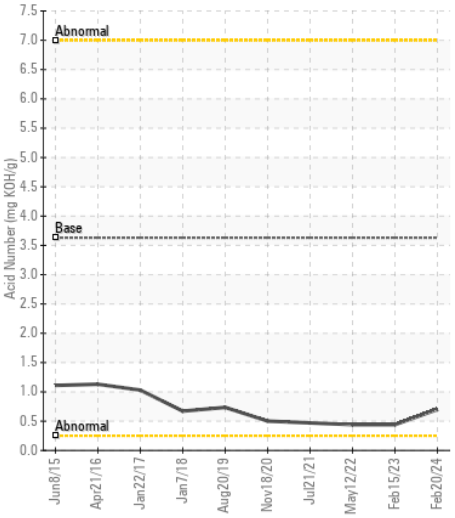


Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : CL0005197 **Received** : 28 Feb 2024
Lab Number : 06103645 **Tested** : 06 Mar 2024
Unique Number : 10901875 **Diagnosed** : 06 Mar 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: KF, pH, ReserveAlk)

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)

PURCELL CONSTRUCTION
3100 HIGH RIDGE RD
CHARLOTTE, NC
US 28270
Contact: BEN MILKE
ben@purcellconst.com
T:
F: