MOBIL LUBE PLUS+ II

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR CATERPILLAR 980-14A 05-02020-050
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

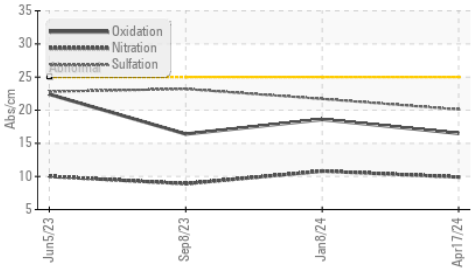
There is no indication of any contamination in the oil.

FLUID CONDITION

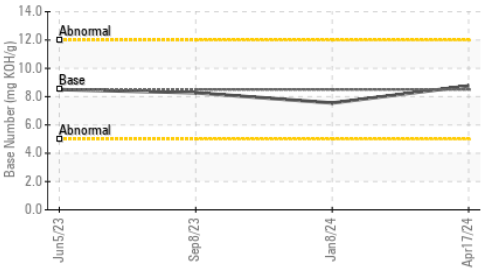
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LP0000300	LP0000021	LP0000159
Sample Date		Client Info		17 Apr 2024	08 Jan 2024	08 Sep 2023
Machine Age	hrs	Client Info		2598	2011	1250
Oil Age	hrs	Client Info		0	0	1250
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	30	58	35
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>25	2	2	5
Lead	ppm	ASTM D5185m	>40	2	6	5
Copper	ppm	ASTM D5185m	>330	10	58	112
Tin	ppm	ASTM D5185m	>15	2	7	4
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	5	8	14
Potassium	ppm	ASTM D5185m	>20	0	<1	<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	0.6	0.8	0
Nitration	Abs/cm	*ASTM D7624	>20	9.9	10.8	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.1	21.7	23.2
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
Sodium	ppm	ASTM D5185m	>216	2	3	4
Boron	ppm	ASTM D5185m	250	4	<1	1
Barium	ppm	ASTM D5185m	10	<1	0	0
Molybdenum	ppm	ASTM D5185m	100	61	60	61
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	895	916	974
Calcium	ppm	ASTM D5185m	3000	1070	1052	1198
Phosphorus	ppm	ASTM D5185m	1150	1011	881	1033
Zinc	ppm	ASTM D5185m	1350	1184	1126	1290
Sulfur	ppm	ASTM D5185m	4250	3346	2547	3261
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	18.6	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.76	7.55	8.27
Visc @ 100°C	cSt	ASTM D445	14.4	12.6	12.6	13.0

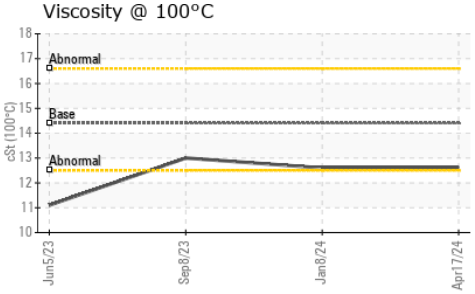
FT-IR (Direct Trend)



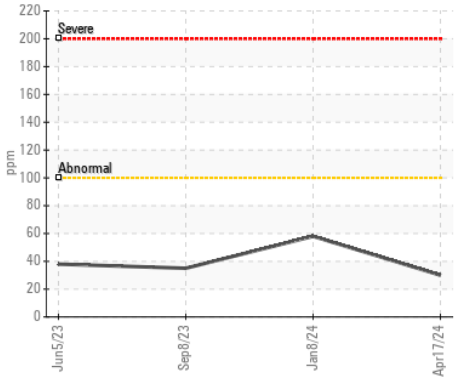
Base Number



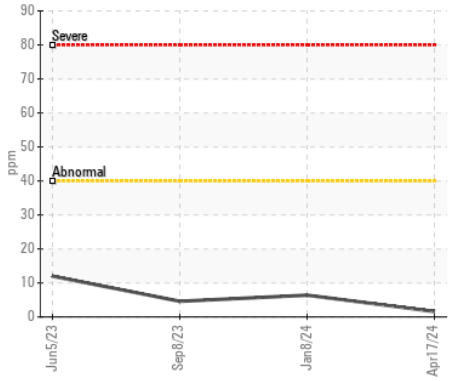
Viscosity @ 100°C



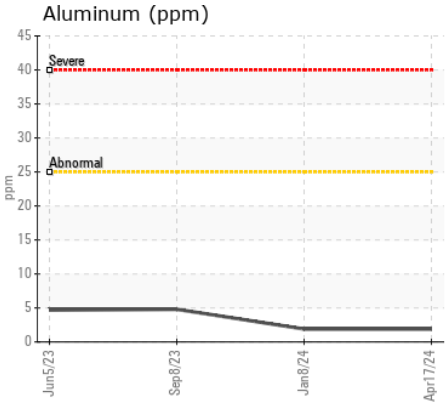
Iron (ppm)



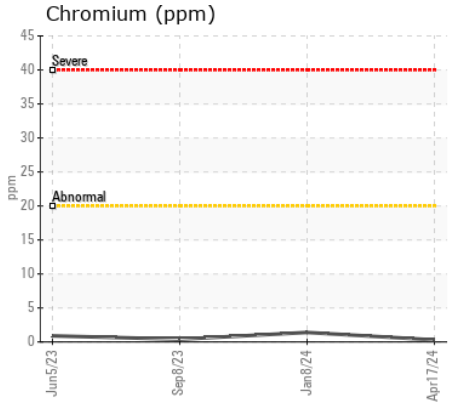
Lead (ppm)



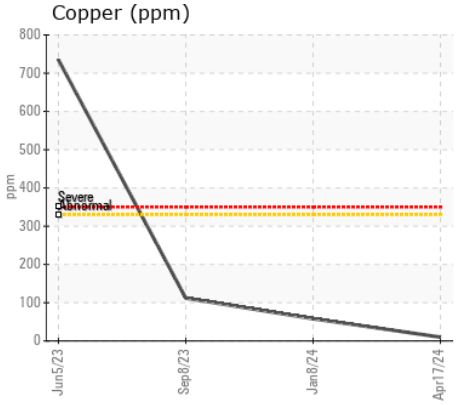
Aluminum (ppm)



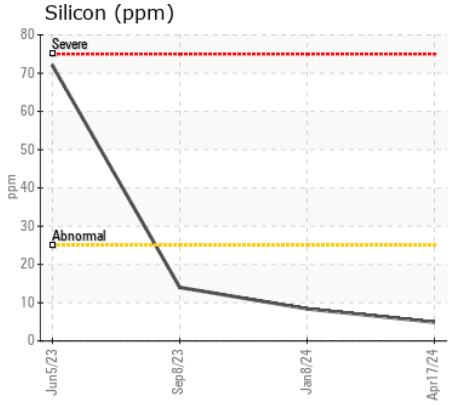
Chromium (ppm)



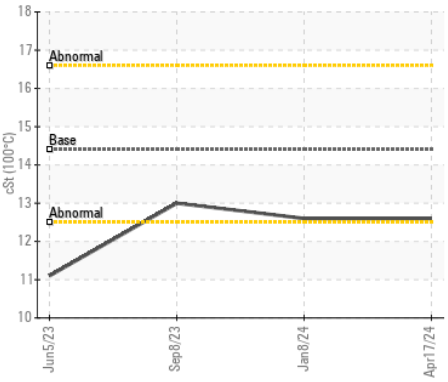
Copper (ppm)



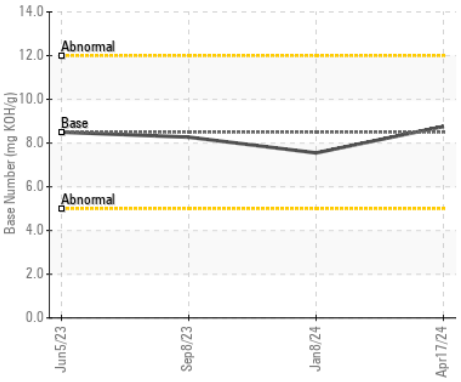
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0000300
Lab Number : 06176226
Unique Number : 11022279
Test Package : MOB 2

Received : 10 May 2024
Tested : 13 May 2024
Diagnosed : 13 May 2024 - Wes Davis

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)

HAYNES MATERIALS
220-2F MAIN ST
OXFORD, CT
US 06478
Contact: AMANDA BOWLEY
abowley@haynesmaterials.com
T: (203)888-8186
F: