MOBIL LUBE PLUS+ II

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL

Area
LOADER
Machine Id
CATERPILLAR CATERPILLAR 980-14A 05-02020-049
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

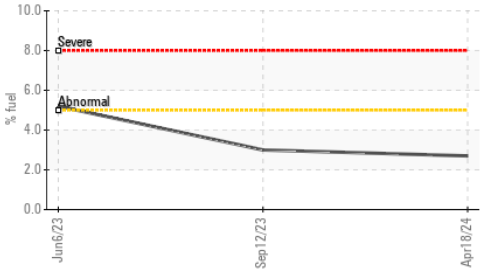
Light fuel dilution occurring. No other contaminants were detected in the oil.

FLUID CONDITION

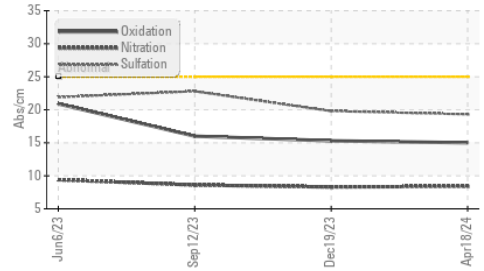
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LP0000003	LP0000014	LP0000144
Sample Date		Client Info		18 Apr 2024	19 Dec 2023	12 Sep 2023
Machine Age	hrs	Client Info		2546	1877	1272
Oil Age	hrs	Client Info		0	0	0
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				MARGINAL	NORMAL	MARGINAL
Iron	ppm	ASTM D5185m	>100	23	28	30
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	<1	1	<1
Aluminum	ppm	ASTM D5185m	>25	2	2	5
Lead	ppm	ASTM D5185m	>40	6	7	7
Copper	ppm	ASTM D5185m	>330	63	81	133
Tin	ppm	ASTM D5185m	>15	8	9	7
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	5	7	14
Potassium	ppm	ASTM D5185m	>20	5	<1	<1
Fuel	%	ASTM D3524	>5	▲ 2.7	<1.0	▲ 3.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.5	0
Nitration	Abs/cm	*ASTM D7624	>20	8.4	8.3	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.3	19.8	22.8
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	8	0	3
Boron	ppm	ASTM D5185m	250	6	2	2
Barium	ppm	ASTM D5185m	10	<1	0	0
Molybdenum	ppm	ASTM D5185m	100	63	59	56
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	891	959	890
Calcium	ppm	ASTM D5185m	3000	1087	1028	1134
Phosphorus	ppm	ASTM D5185m	1150	1067	1063	976
Zinc	ppm	ASTM D5185m	1350	1205	1270	1231
Sulfur	ppm	ASTM D5185m	4250	3143	2911	3185
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0	15.3	16.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.19	9.36	9.39
Visc @ 100°C	cSt	ASTM D445	14.4	12.1	12.8	12.5

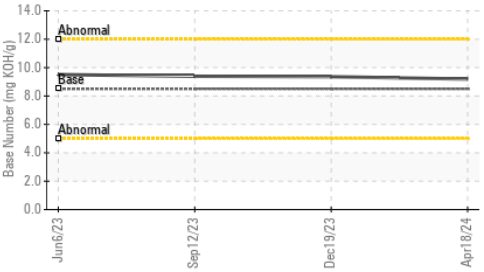
Fuel Dilution



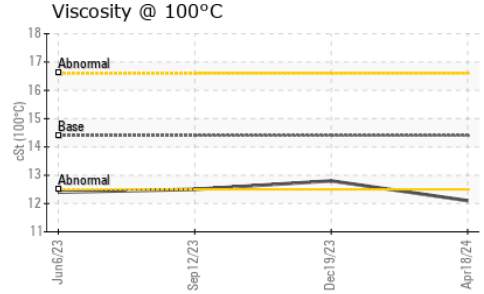
FT-IR (Direct Trend)



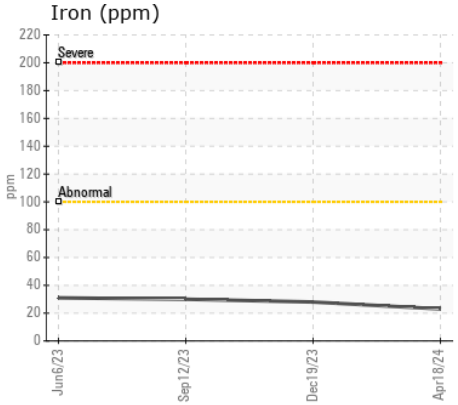
Base Number



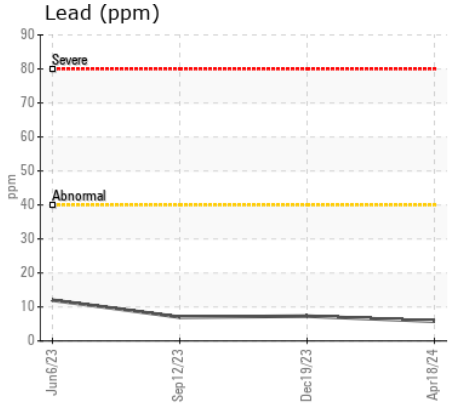
Viscosity @ 100°C



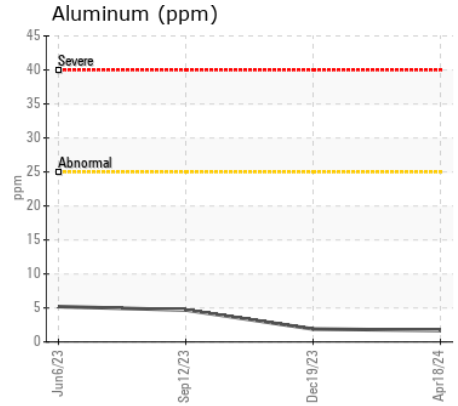
Iron (ppm)



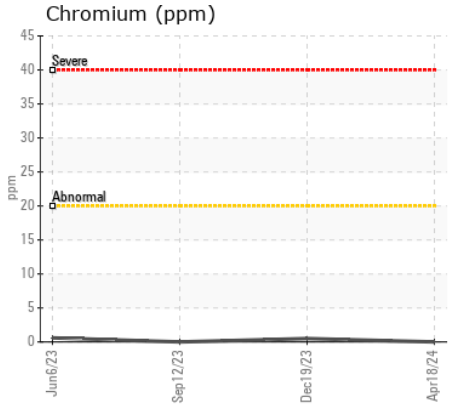
Lead (ppm)



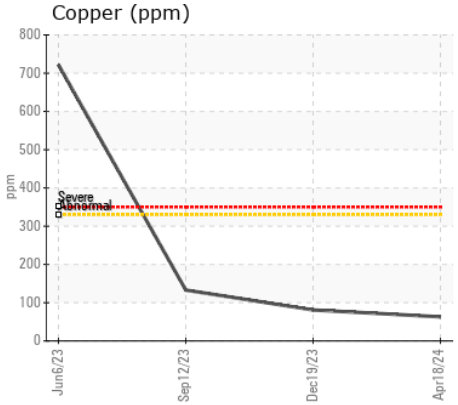
Aluminum (ppm)



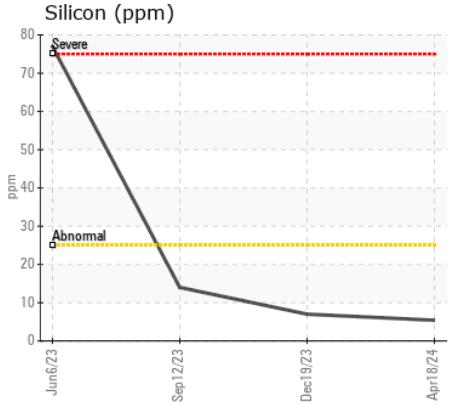
Chromium (ppm)



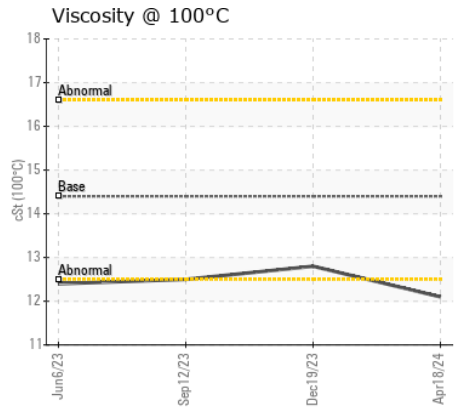
Copper (ppm)



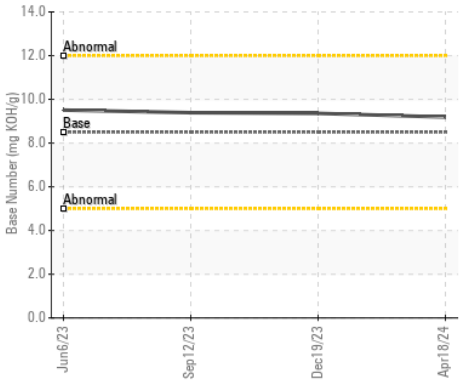
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0000003
Lab Number : 06176231
Unique Number : 11022284
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Received : 10 May 2024
Tested : 15 May 2024
Diagnosed : 15 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)

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