



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR PML-1
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (4 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		CL0005456	CL0004407	CL0002926
Sample Date		Client Info		19 May 2024	24 Jun 2023	20 Feb 2022
Machine Age	hrs	Client Info		15685	15345	14810
Oil Age	hrs	Client Info		340	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	6	10	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>25	3	1	2
Lead	ppm	ASTM D5185m	>40	1	2	2
Copper	ppm	ASTM D5185m	>330	1	2	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

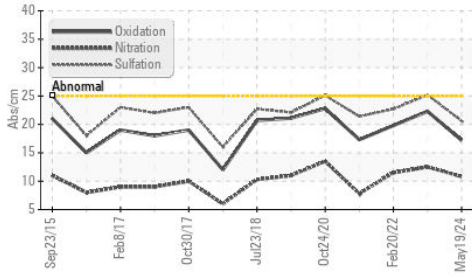
Silicon	ppm	ASTM D5185m	>25	4	5	5
Potassium	ppm	ASTM D5185m	>20	2	2	1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.8	12.5	11.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	25.2	22.7
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

FLUID CONDITION

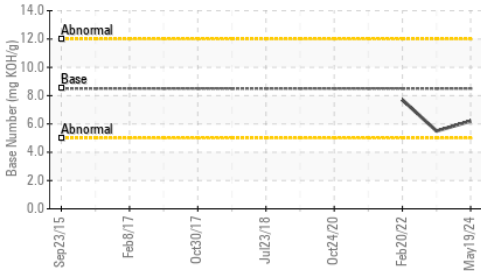
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	2	2	2
Boron	ppm	ASTM D5185m	250	53	47	72
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	93	96	86
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	38	65	211
Calcium	ppm	ASTM D5185m	3000	2387	2433	2423
Phosphorus	ppm	ASTM D5185m	1150	1067	964	1220
Zinc	ppm	ASTM D5185m	1350	1263	1225	1451
Sulfur	ppm	ASTM D5185m	4250	4522	4057	3843
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	22.3	19.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.2	5.5	7.7
Visc @ 100°C	cSt	ASTM D445	14.4	13.5	14.0	14.3

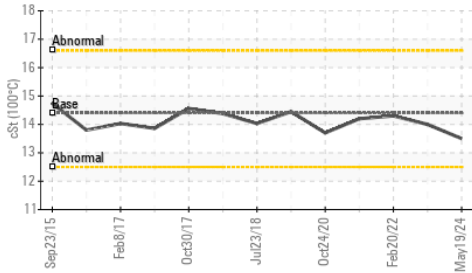
FT-IR (Direct Trend)



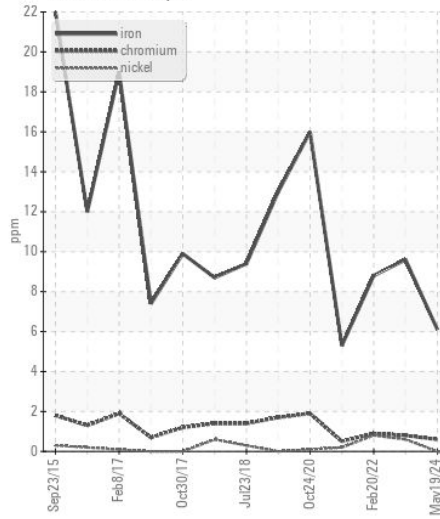
Base Number



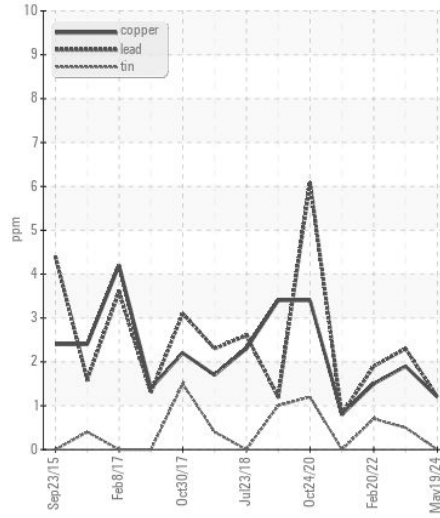
Viscosity @ 100°C



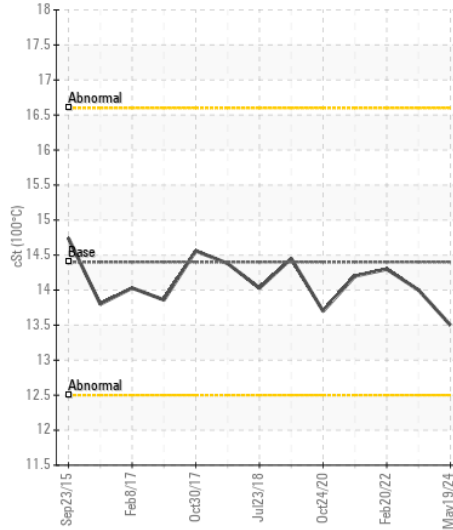
Ferrous Alloys



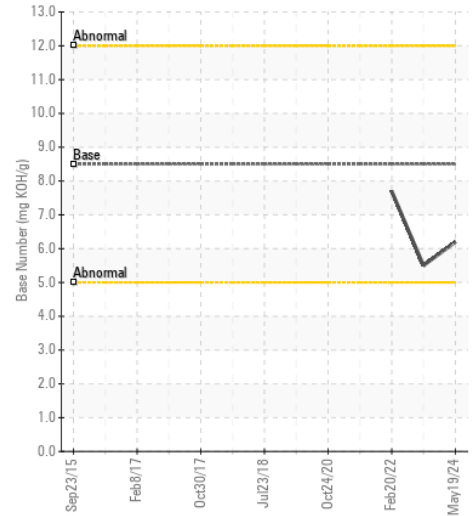
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : CL0005456
Lab Number : 06191476
Unique Number : 11048228
Test Package : CONST (Additional Tests: TBN)

Received : 24 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 2024 - Wes Davis

PEDULLA
 146 MCLELLAND
 MOORESVILLE, NC
 US 28115
 Contact: LARRY

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)

T:
F: