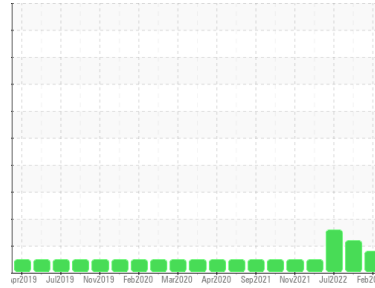


OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
CATERPILLAR 980M L56
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON HP 15W40 (10 GAL)

DIAGNOSIS

▲ Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

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.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PCA0118526	PCA0118533	PCA0016745
Sample Date	Client Info	14 Feb 2024	01 Feb 2024	28 Jul 2022
Machine Age	hrs	15973	15764	11436
Oil Age	hrs	205	250	300
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		MARGINAL	ABNORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	6	14	17
Chromium	ppm ASTM D5185m >20	<1	<1	<1
Nickel	ppm ASTM D5185m >2	0	0	<1
Titanium	ppm ASTM D5185m >2	0	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >25	1	2	<1
Lead	ppm ASTM D5185m >40	0	<1	2
Copper	ppm ASTM D5185m >330	2	5	4
Tin	ppm ASTM D5185m >15	<1	<1	1
Antimony	ppm ASTM D5185m	---	---	---
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	<1	<1	2
Barium	ppm ASTM D5185m	3	<1	0
Molybdenum	ppm ASTM D5185m	57	63	57
Manganese	ppm ASTM D5185m	0	<1	<1
Magnesium	ppm ASTM D5185m	861	945	907
Calcium	ppm ASTM D5185m	976	1048	997
Phosphorus	ppm ASTM D5185m	932	866	968
Zinc	ppm ASTM D5185m	1110	1211	1181
Sulfur	ppm ASTM D5185m	3069	2918	2967

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	3	5	▲ 55
Sodium	ppm ASTM D5185m	0	0	2
Potassium	ppm ASTM D5185m >20	2	2	1
Fuel	% ASTM D3524 >5	▲ 4.7	▲ 5.9	<1.0

INFRA-RED

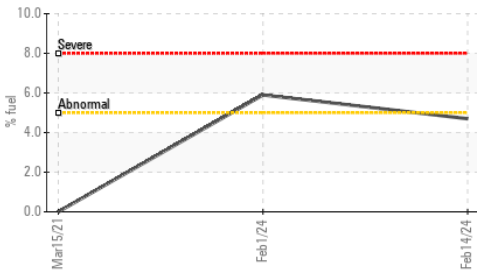
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.1	0.2	0.4
Nitration	Abs/cm *ASTM D7624 >20	6.6	7.9	9.3
Sulfation	Abs/.1mm *ASTM D7415 >30	18.2	18.2	21.8

FLUID DEGRADATION

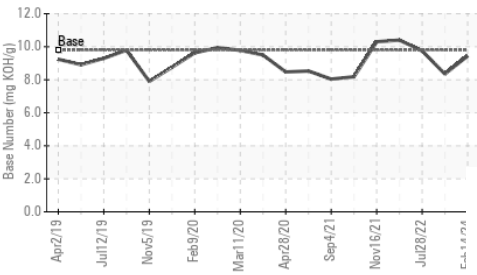
method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.2	15.2	17.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	9.44	8.35	9.75

OIL ANALYSIS REPORT

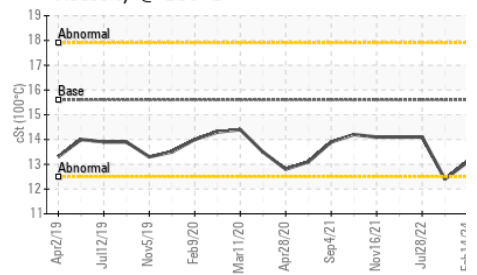
▲ Fuel Dilution



Base Number



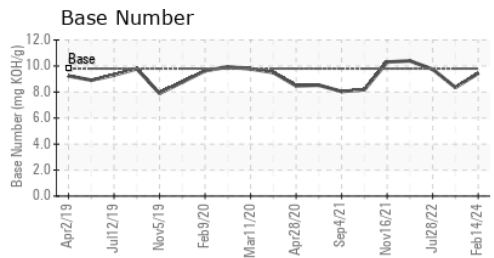
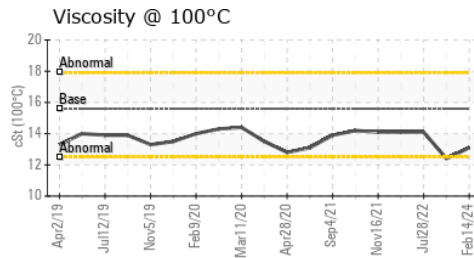
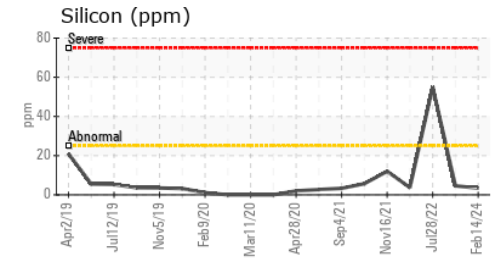
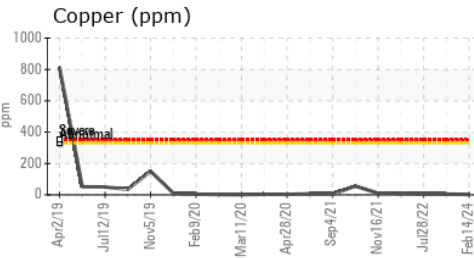
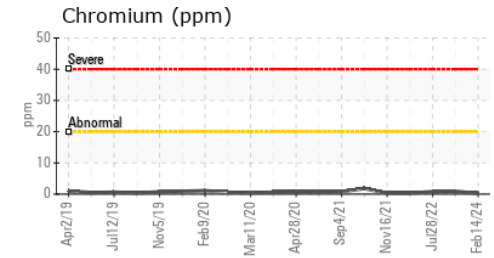
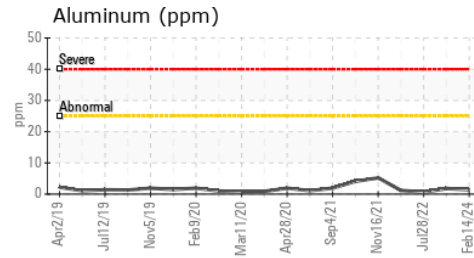
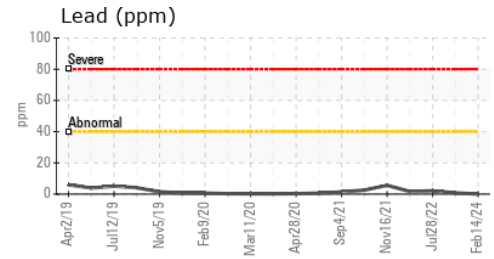
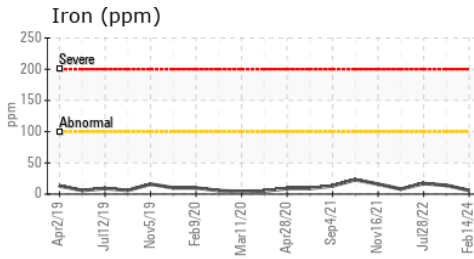
Viscosity @ 100°C



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	13.1	▲ 12.4 14.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0118526
Lab Number : 06094386
Unique Number : 10887239
Test Package : MOB 2 (Additional Tests: PercentFuel)

SCRAP METAL SERVICES (SMS Mill Services LLC)
 1500 COMMERCIAL AVE
 MINGO JUNCTION, OH
 US 43938
 Contact: FRANK NALLY
 fnally@scrapmetalservices.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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F: