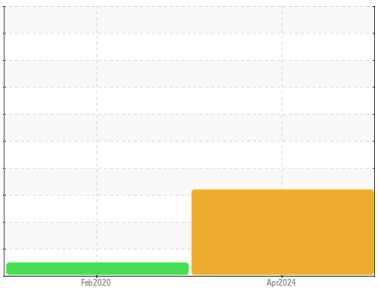
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
572
Component
Diesel Engine
Fluid
{not provided} (--- QTS)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
Cylinder, crank, or cam shaft wear is indicated.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RW0004957**	RW0000843	---
Sample Date		Client Info		**17 Apr 2024**	26 Feb 2020	---
Machine Age	hrs	Client Info		**3376**	1460	---
Oil Age	hrs	Client Info		**567**	0	---
Oil Changed		Client Info		**Changed**	N/A	---
Sample Status				**ABNORMAL**	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	---
Water		WC Method	>0.2	**NEG**	NEG	---
Glycol		WC Method		**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	▲ **122**	20	---
Chromium	ppm	ASTM D5185m	>20	**7**	<1	---
Nickel	ppm	ASTM D5185m	>4	**2**	<1	---
Titanium	ppm	ASTM D5185m		**1**	0	---
Silver	ppm	ASTM D5185m	>3	**<1**	0	---
Aluminum	ppm	ASTM D5185m	>20	● **22**	2	---
Lead	ppm	ASTM D5185m	>40	**<1**	0	---
Copper	ppm	ASTM D5185m	>330	**14**	7	---
Tin	ppm	ASTM D5185m	>15	**2**	0	---
Antimony	ppm	ASTM D5185m		**---**	0	---
Vanadium	ppm	ASTM D5185m		**<1**	0	---
Cadmium	ppm	ASTM D5185m		**<1**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**62**	29	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**72**	36	---
Manganese	ppm	ASTM D5185m		**2**	<1	---
Magnesium	ppm	ASTM D5185m		**1164**	440	---
Calcium	ppm	ASTM D5185m		**1866**	1559	---
Phosphorus	ppm	ASTM D5185m		**1549**	792	---
Zinc	ppm	ASTM D5185m		**1779**	943	---
Sulfur	ppm	ASTM D5185m		**4335**	1881	---

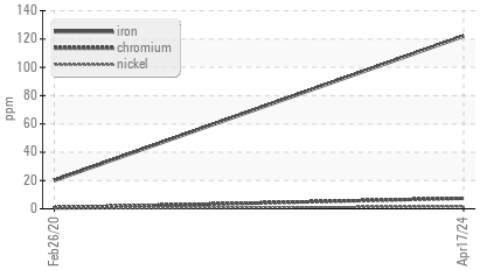
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **44**	6	---
Sodium	ppm	ASTM D5185m		**9**	3	---
Potassium	ppm	ASTM D5185m	>20	**8**	<1	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.3	---
Nitration	Abs/cm	*ASTM D7624	>20	**12.3**	10.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.2**	23.4	---

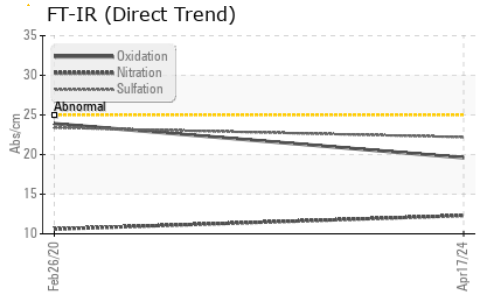
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.6**	23.9	---
Base Number (BN)	mg KOH/g	ASTM D2896		**8.93**	7.40	---

OIL ANALYSIS REPORT

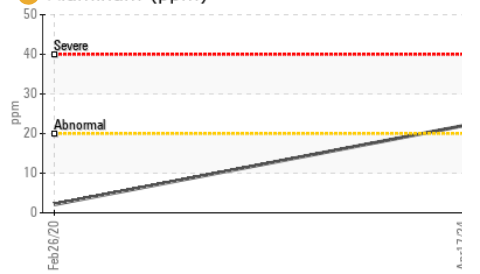
Ferrous Alloys



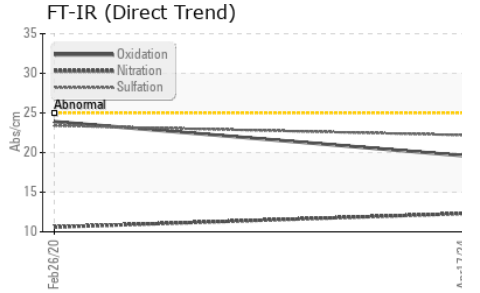
FT-IR (Direct Trend)



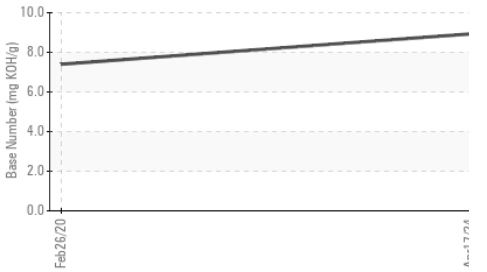
Aluminum (ppm)



FT-IR (Direct Trend)



Base Number

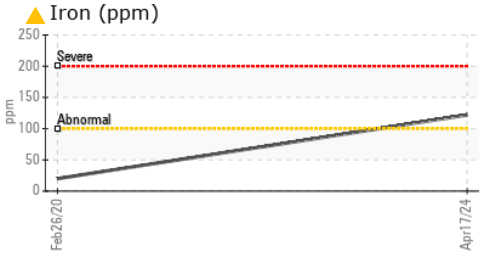


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	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	---

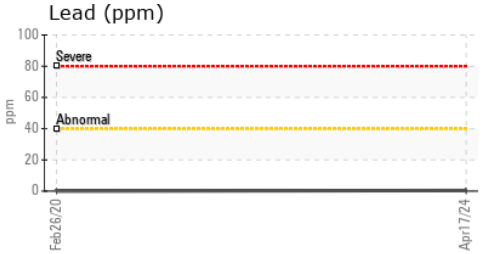
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**13.8**	12.4	---

GRAPHS

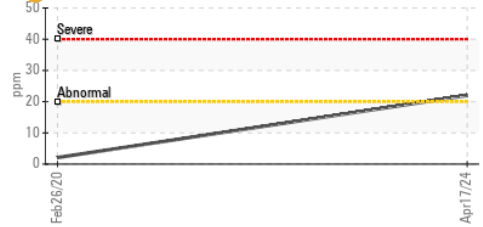
Iron (ppm)



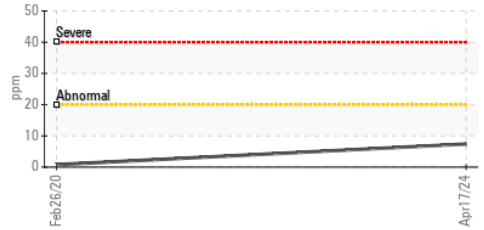
Lead (ppm)



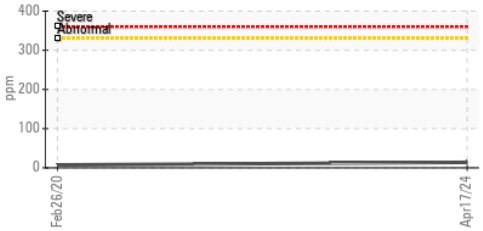
Aluminum (ppm)



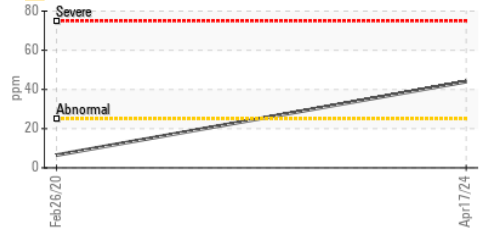
Chromium (ppm)



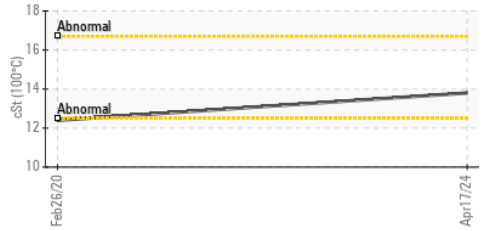
Copper (ppm)



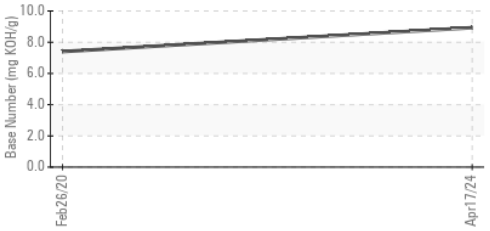
Silicon (ppm)



Viscosity @ 100°C



Base Number



ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0004957
Lab Number : 06184541
Unique Number : 11035867
Test Package : MOB 2

Received : 20 May 2024
Tested : 21 May 2024
Diagnosed : 22 May 2024 - Sean Felton

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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