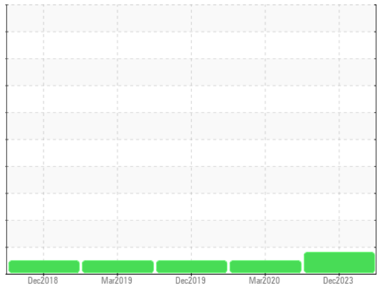
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
FSP391 (S/N 1FVACXDT6CDBN5391)
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (18 QTS)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
The aluminum level is abnormal. All other 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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0875841**	WC0431994	WC0409120
Sample Date		Client Info		**28 Dec 2023**	10 Mar 2020	10 Dec 2019
Machine Age	mls	Client Info		**223212**	202884	202410
Oil Age	mls	Client Info		**0**	474	15000
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
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	>90	**69**	15	9
Chromium	ppm	ASTM D5185m	>20	**5**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**3**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**0**	1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**34**	2	2
Lead	ppm	ASTM D5185m	>40	**<1**	0	<1
Copper	ppm	ASTM D5185m	>330	**8**	24	28
Tin	ppm	ASTM D5185m	>15	**<1**	0	<1
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**14**	38	51
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**87**	6	21
Manganese	ppm	ASTM D5185m		**1**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**929**	107	187
Calcium	ppm	ASTM D5185m	3000	**1068**	2014	2031
Phosphorus	ppm	ASTM D5185m	1150	**1076**	802	922
Zinc	ppm	ASTM D5185m	1350	**1245**	905	947
Sulfur	ppm	ASTM D5185m	4250	**3096**	4051	4150

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	4	4
Sodium	ppm	ASTM D5185m	>158	**11**	2	2
Potassium	ppm	ASTM D5185m	>20	**4**	2	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.5**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**8.5**	5.8	5.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.5**	15.4	16.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.6**	9	10.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**9.3**	8.5	9.5

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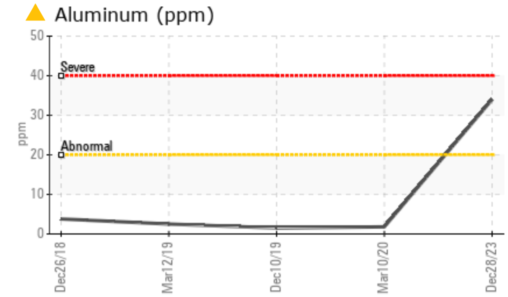
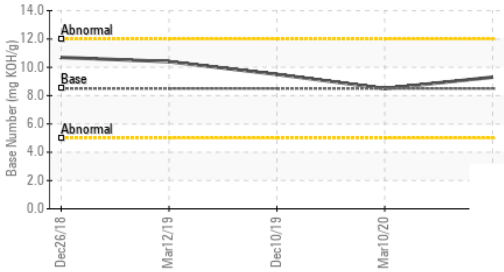
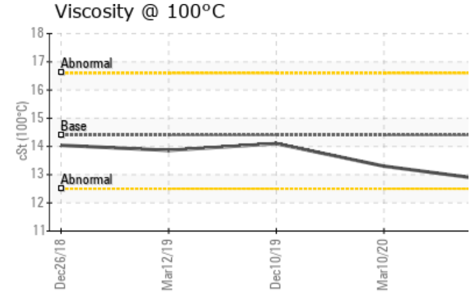
Aluminum (ppm)



Base Number



Viscosity @ 100°C

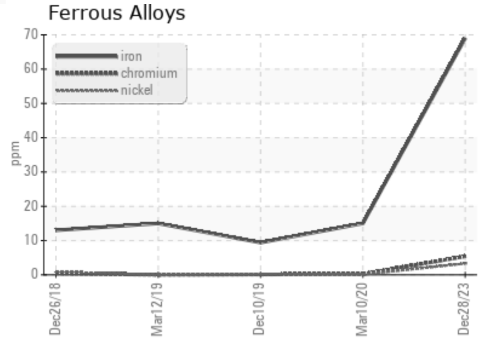


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

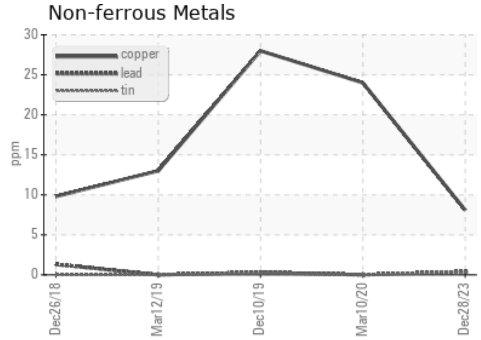
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**12.8**	13.3	14.1

GRAPHS

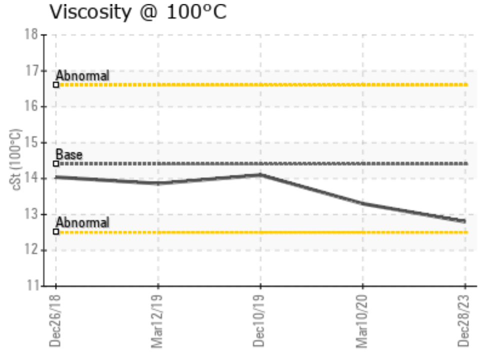
Ferrous Alloys



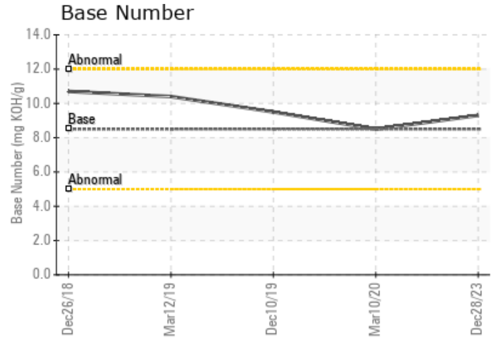
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0875841 **Recieved** : 17 Jan 2024
Lab Number : 06063395 **Diagnosed** : 19 Jan 2024
Unique Number : 10834777 **Diagnostician** : Don Baldridge
Test Package : FLEET

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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