CONST

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
Contracting
Machine Id
8002 8002
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (10 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

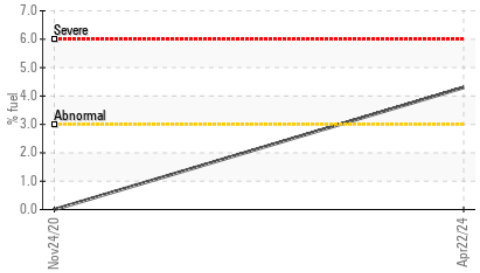
There is a high amount of particulates present in the oil. There is a moderate amount of fuel present in the oil.

FLUID CONDITION

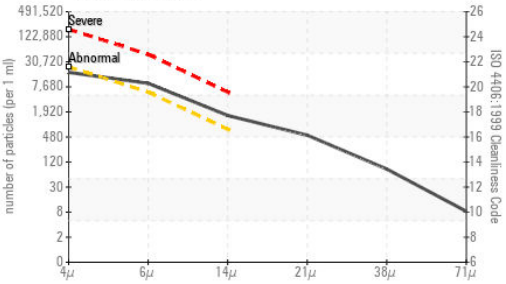
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0918694	WC0902768	WC0861735
Sample Date		Client Info		22 Apr 2024	16 Feb 2024	21 Nov 2023
Machine Age	hrs	Client Info		9619	9208	8778
Oil Age	hrs	Client Info		841	430	476
Filter Age	hrs	Client Info		578	430	476
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				ABNORMAL	ATTENTION	ABNORMAL
Iron	ppm	ASTM D5185m	>90	24	9	11
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>2	1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	1	2
Lead	ppm	ASTM D5185m	>40	13	2	3
Copper	ppm	ASTM D5185m	>330	2	<1	<1
Tin	ppm	ASTM D5185m	>15	2	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	10	6	8
Potassium	ppm	ASTM D5185m	>20	4	3	2
Fuel	%	ASTM D3524	>3.0	▲ 4.3	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.7	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	12.1	9.1	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.2	22.8	22.8
Particles >4µm		ASTM D7647	>20000	14885	7612	▲ 41767
Particles >6µm		ASTM D7647	>5000	▲ 8109	4147	▲ 22753
Particles >14µm		ASTM D7647	>640	▲ 1380	● 706	▲ 3872
Particles >21µm		ASTM D7647	>160	▲ 465	● 238	▲ 1304
Particles >38µm		ASTM D7647	>40	▲ 72	37	▲ 201
Particles >71µm		ASTM D7647	>10	7	4	▲ 21
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 21/20/18	● 20/19/17	▲ 23/22/19
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	>158	<1	0	3
Boron	ppm	ASTM D5185m	250	33	42	34
Barium	ppm	ASTM D5185m	10	<1	3	0
Molybdenum	ppm	ASTM D5185m	100	52	46	49
Manganese	ppm	ASTM D5185m		1	0	<1
Magnesium	ppm	ASTM D5185m	450	460	439	490
Calcium	ppm	ASTM D5185m	3000	1602	1522	1675
Phosphorus	ppm	ASTM D5185m	1150	648	755	685
Zinc	ppm	ASTM D5185m	1350	856	822	907
Sulfur	ppm	ASTM D5185m	4250	2236	2541	2178
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.8	21.6	21.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.4	7.9	8.5
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 10.5	10.4	11.1

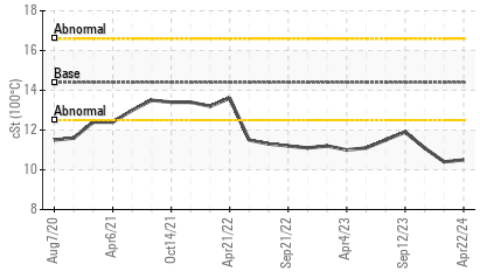
Fuel Dilution



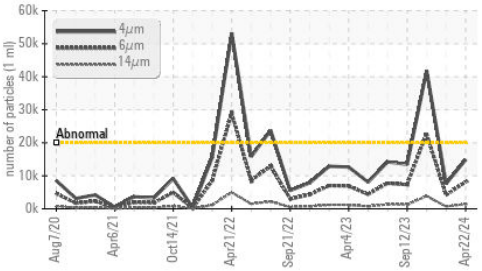
Particle Count



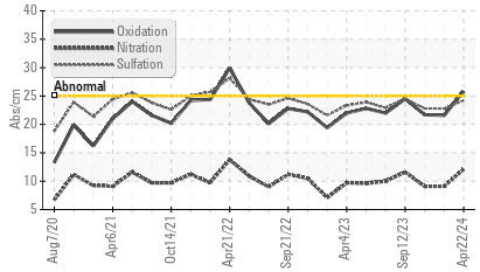
Viscosity @ 100°C



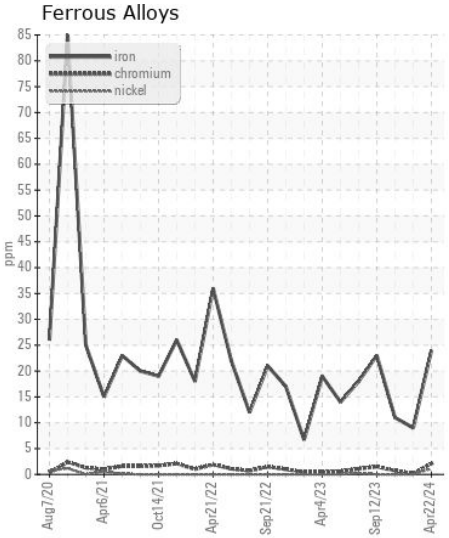
Particle Trend



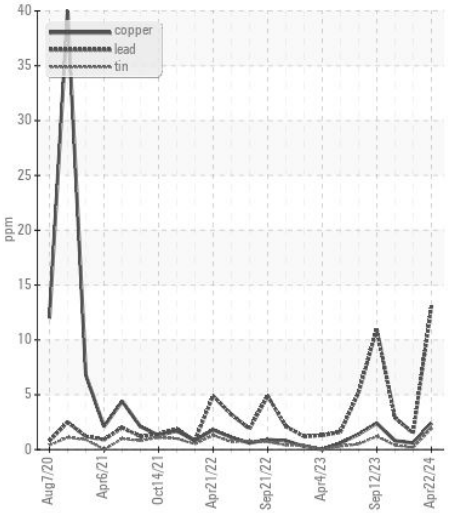
FT-IR (Direct Trend)



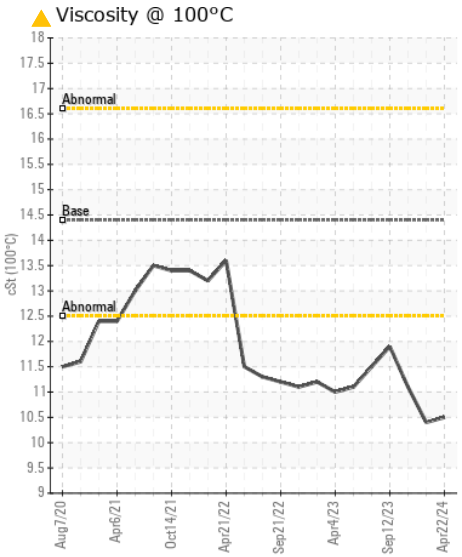
Ferrous Alloys



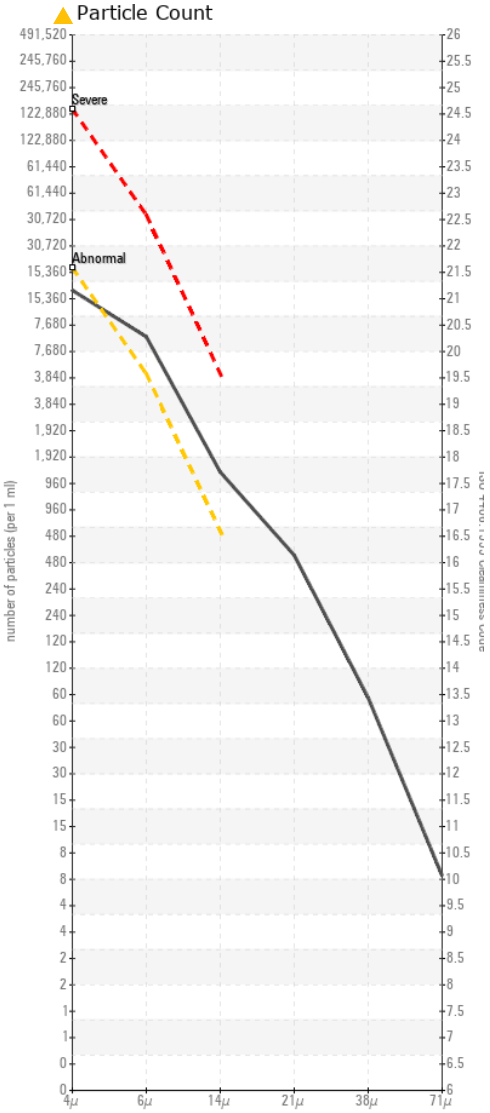
Non-ferrous Metals



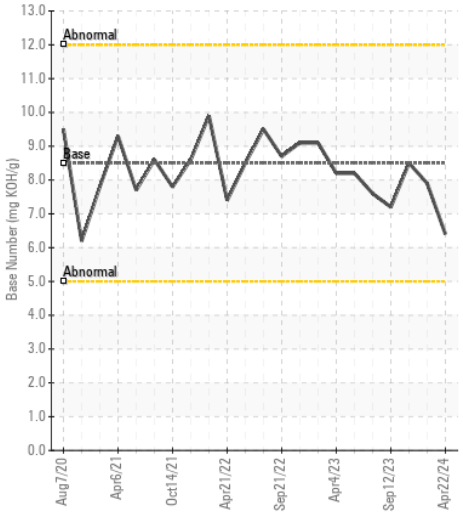
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0918694 **Received** : 25 Apr 2024
Lab Number : 06160224 **Tested** : 30 Apr 2024
Unique Number : 10995647 **Diagnosed** : 30 Apr 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, PrtCount, TBN)

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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