OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Machine Id
283064
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

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

All component wear rates are normal.

CONTAMINATION

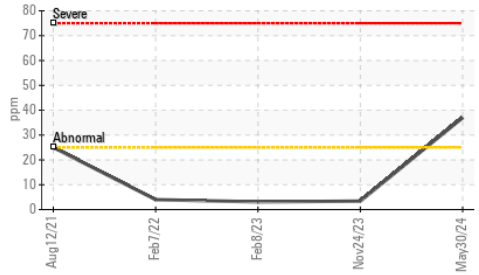
Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

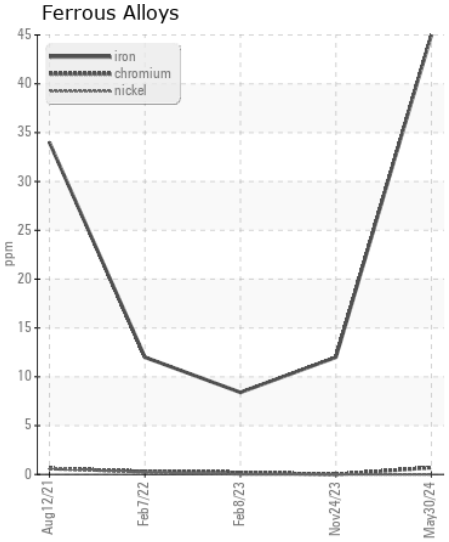
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0875957	WC0875677	WC0717923
Sample Date		Client Info		30 May 2024	24 Nov 2023	08 Feb 2023
Machine Age	mls	Client Info		185570	158679	112464
Oil Age	mls	Client Info		20000	0	0
Filter Age	mls	Client Info		20000	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	45	12	8
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	● 21	2	2
Lead	ppm	ASTM D5185m	>40	1	<1	1
Copper	ppm	ASTM D5185m	>330	20	5	4
Tin	ppm	ASTM D5185m	>15	2	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	▲ 37	3	3
Potassium	ppm	ASTM D5185m	>20	66	3	3
Fuel	%	ASTM D3524	>5	0.4	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.4	9.7	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	22.1	20.6
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	4	1	2
Boron	ppm	ASTM D5185m	250	79	0	47
Barium	ppm	ASTM D5185m	10	6	0	0
Molybdenum	ppm	ASTM D5185m	100	63	71	60
Manganese	ppm	ASTM D5185m		5	0	<1
Magnesium	ppm	ASTM D5185m	450	462	1077	343
Calcium	ppm	ASTM D5185m	3000	1695	1251	1835
Phosphorus	ppm	ASTM D5185m	1150	1008	1131	977
Zinc	ppm	ASTM D5185m	1350	1209	1513	1186
Sulfur	ppm	ASTM D5185m	4250	3379	3539	3889
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	17.7	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.4	6.3	7.2
Visc @ 100°C	cSt	ASTM D445	14.4	● 11.1	12.8	13.7

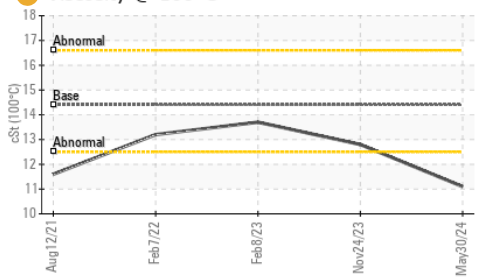
Silicon (ppm)



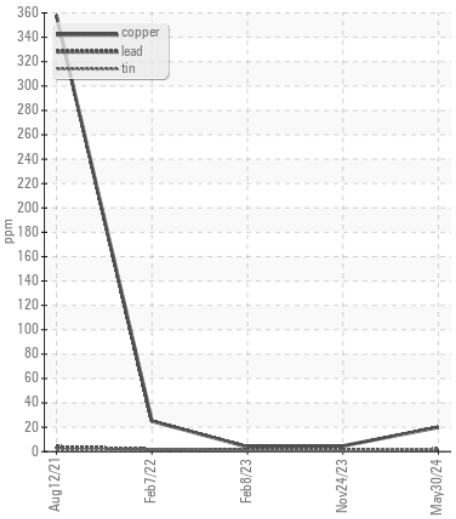
Ferrous Alloys



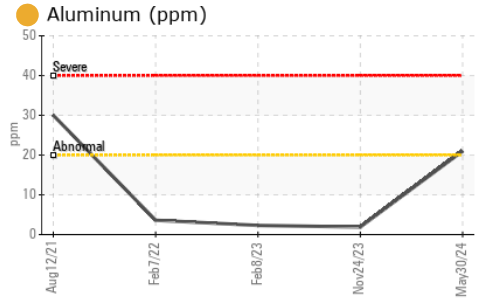
Viscosity @ 100°C



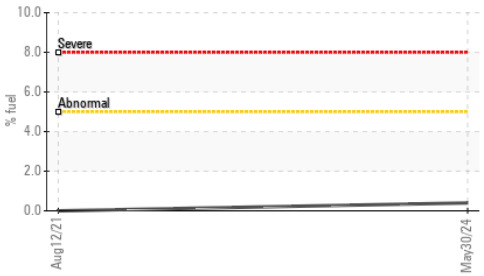
Non-ferrous Metals



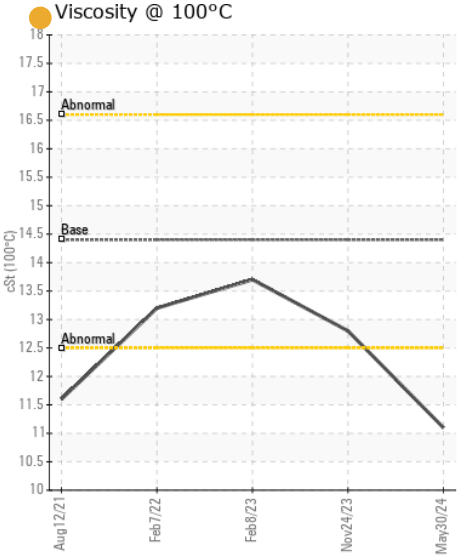
Aluminum (ppm)



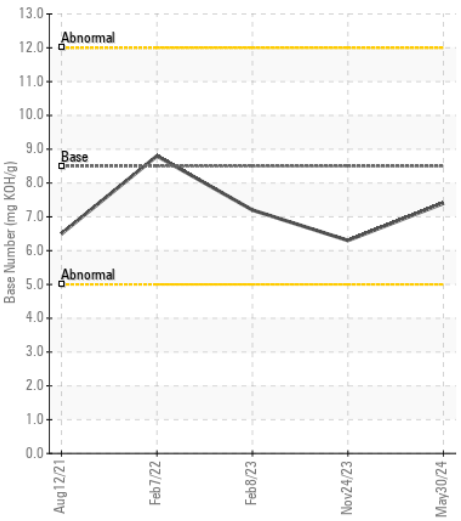
Fuel Dilution



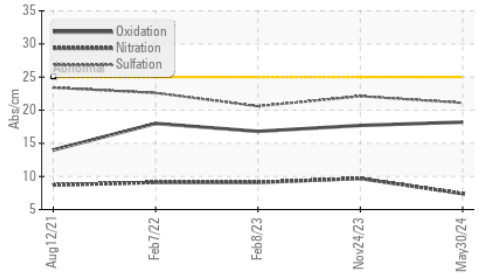
Viscosity @ 100°C



Base Number



FT-IR (Direct Trend)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0875957
Lab Number : 06196527
Unique Number : 11058650
Test Package : FLEET (Additional Tests: FuelDilution, GLYCOL, PercentFuel)

Received : 31 May 2024
Tested : 05 Jun 2024
Diagnosed : 05 Jun 2024 - Jonathan Hester

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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