



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
441360
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- 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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0030589	IL0026560	IL0026631
Sample Date		Client Info		18 Jan 2024	26 Apr 2023	14 Nov 2022
Machine Age	mls	Client Info		5084	4001	3397
Oil Age	mls	Client Info		1083	604	927
Filter Age	mls	Client Info		17000	17000	17000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 160	33	42
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>4	1	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	24	8	7
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	5	1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

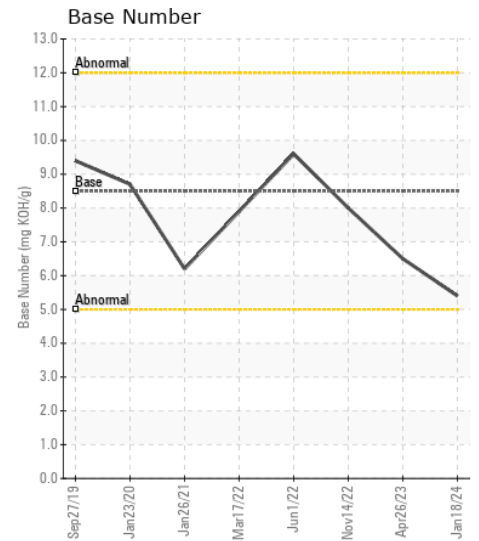
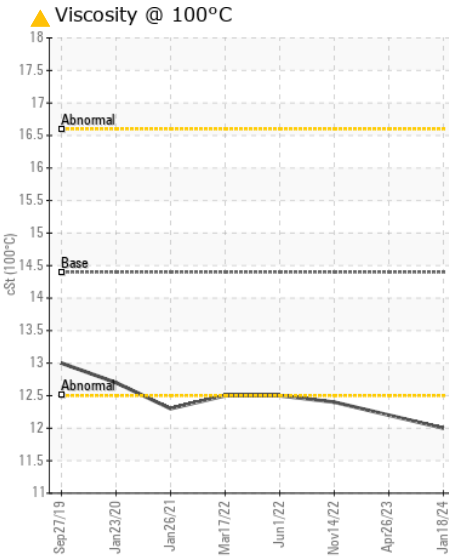
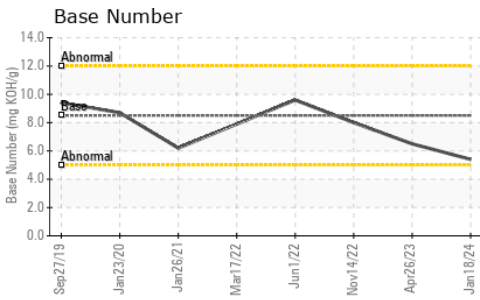
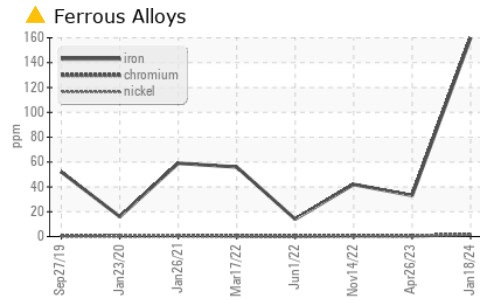
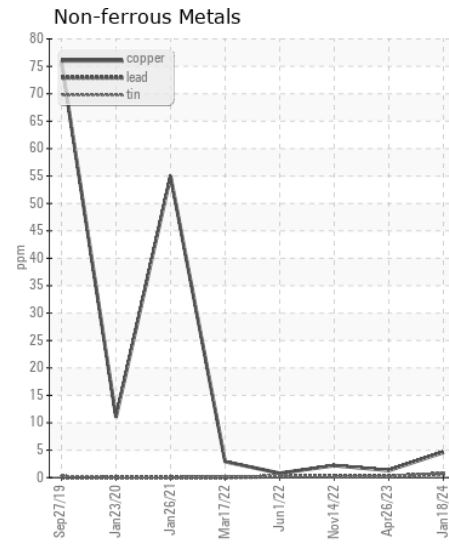
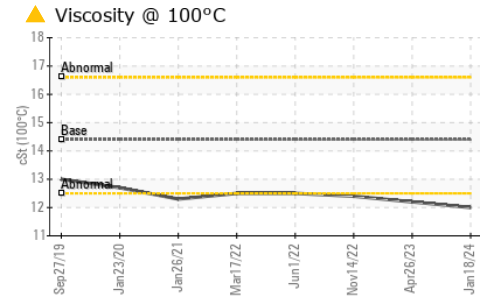
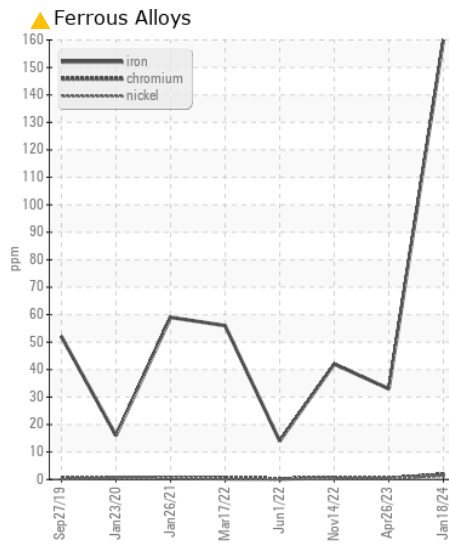
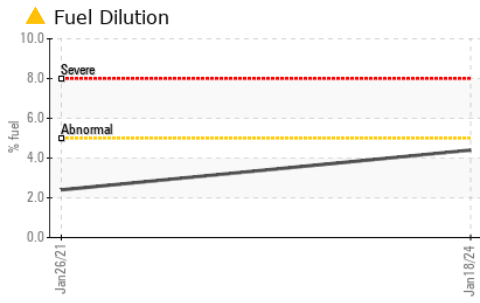
Light fuel dilution occurring.

Silicon	ppm	ASTM D5185m	>25	12	4	6
Potassium	ppm	ASTM D5185m	>20	2	2	0
Fuel	%	ASTM D3524	>5	▲ 4.4	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.2	0.8	0.9
Nitration	Abs/cm	*ASTM D7624	>20	13.7	10.0	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.3	18.8	23.7
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

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.

Sodium	ppm	ASTM D5185m	>158	0	0	2
Boron	ppm	ASTM D5185m	250	4	4	9
Barium	ppm	ASTM D5185m	10	13	0	0
Molybdenum	ppm	ASTM D5185m	100	92	64	54
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m	450	1262	852	798
Calcium	ppm	ASTM D5185m	3000	1446	1106	1265
Phosphorus	ppm	ASTM D5185m	1150	1309	982	865
Zinc	ppm	ASTM D5185m	1350	1625	1193	1113
Sulfur	ppm	ASTM D5185m	4250	5017	3105	3188
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.6	16.4	21.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.4	6.5	8.0
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 12.0	12.2	12.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0030589 **Received** : 12 Feb 2024
Lab Number : 06086558 **Tested** : 15 Feb 2024
Unique Number : 10874003 **Diagnosed** : 15 Feb 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: FUELDILUTION, PercentFuel)

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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)