MAR II

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
SEAWARD EXPLORER
Machine Id
Explorer
Component
2 Genset
Fluid
MOBIL DELVAC 1330 (--- 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

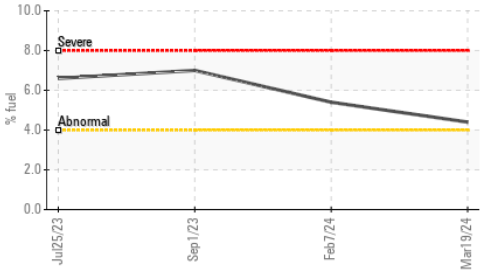
There is a moderate amount of fuel present in the oil.

FLUID CONDITION

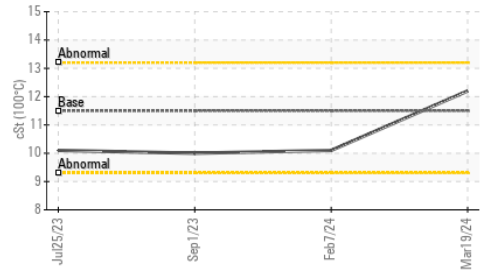
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0886565	WC0859376	WC0818100
Sample Date		Client Info		19 Mar 2024	07 Feb 2024	01 Sep 2023
Machine Age	hrs	Client Info		12051	11697	0
Oil Age	hrs	Client Info		516	162	0
Filter Age	hrs	Client Info		516	162	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>50	17	7	8
Chromium	ppm	ASTM D5185m	>4	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	2	<1	<1
Lead	ppm	ASTM D5185m	>17	12	<1	<1
Copper	ppm	ASTM D5185m	>70	2	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<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	5	3	5
Potassium	ppm	ASTM D5185m	>20	2	<1	0
Fuel	%	ASTM D3524	>4.0	▲ 4.4	▲ 5.4	▲ 7.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.3	5.8	6.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	13.4	14.6
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	>0.1	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		0	1	2
Boron	ppm	ASTM D5185m		0	1	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		6	5	58
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		885	1312	746
Calcium	ppm	ASTM D5185m		2229	874	1576
Phosphorus	ppm	ASTM D5185m		836	691	846
Zinc	ppm	ASTM D5185m		992	829	1011
Sulfur	ppm	ASTM D5185m		3630	2322	3639
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.2	7.1	7.9
Base Number (BN)	mg KOH/g	ASTM D2896	13	8.7	7.4	7.4
Visc @ 100°C	cSt	ASTM D445	11.5	▲ 12.2	10.1	10.0

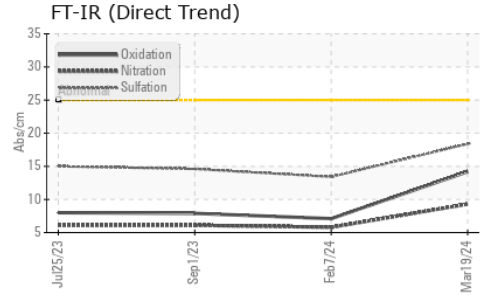
Fuel Dilution



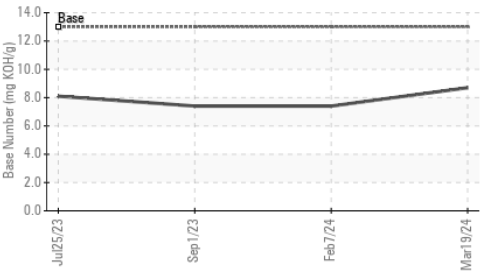
Viscosity @ 100°C



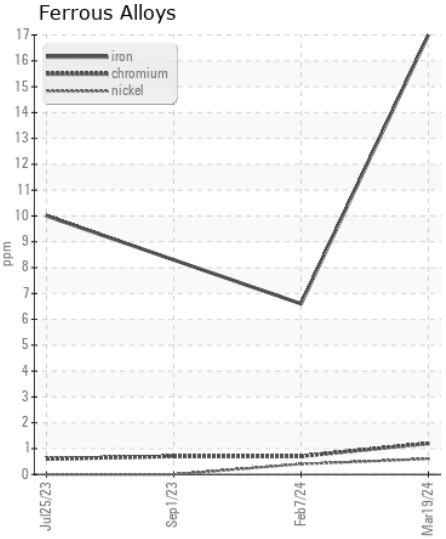
FT-IR (Direct Trend)



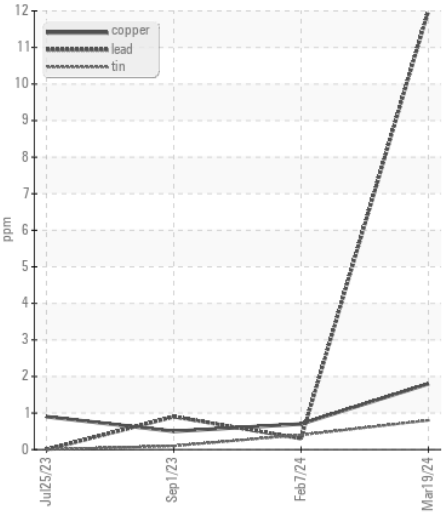
Base Number



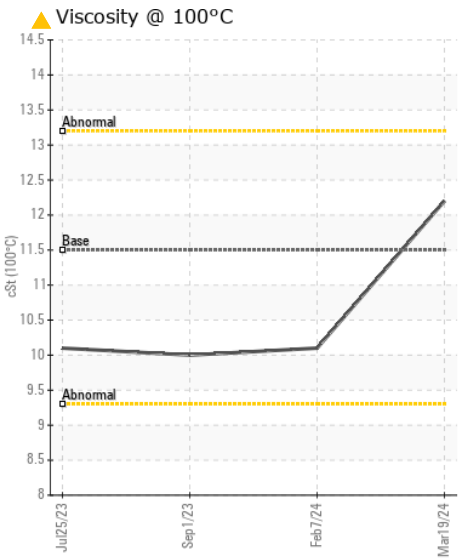
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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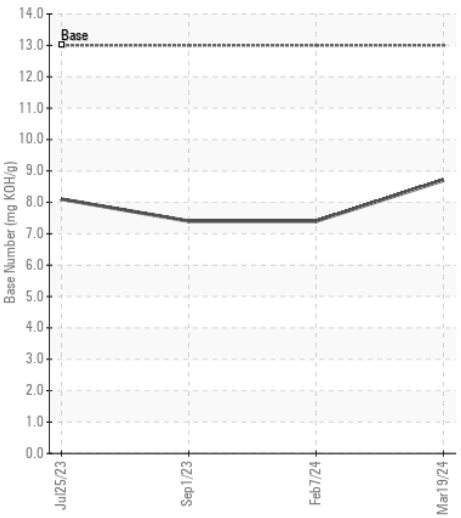

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0886565 **Received** : 19 Apr 2024
Lab Number : 06155176 **Tested** : 24 Apr 2024
Unique Number : 10990599 **Diagnosed** : 24 Apr 2024 - Sean Felton
Test Package : MAR 2 (Additional Tests: PercentFuel)

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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