MOB I+ WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
60602108
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

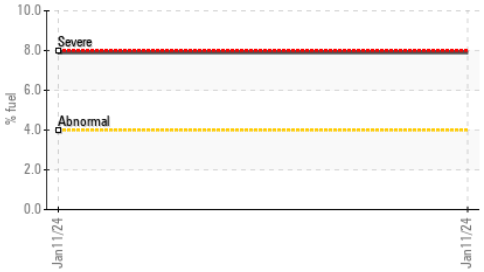
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

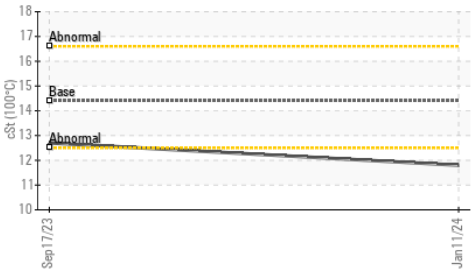
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**KL0005007**	KL0007026	---
Sample Date		Client Info		**11 Jan 2024**	17 Sep 2023	---
Machine Age	hrs	Client Info		**1389**	921	---
Oil Age	hrs	Client Info		**468**	429	---
Filter Age	hrs	Client Info		**468**	429	---
Oil Changed		Client Info		**Changed**	Changed	---
Filter Changed		Client Info		**Changed**	Not Changd	---
Sample Status				**ABNORMAL**	NORMAL	---
Iron	ppm	ASTM D5185m	>75	**15**	9	---
Chromium	ppm	ASTM D5185m	>8	**<1**	0	---
Nickel	ppm	ASTM D5185m	>2	**<1**	0	---
Titanium	ppm	ASTM D5185m	>3	**0**	0	---
Silver	ppm	ASTM D5185m	>2	**0**	0	---
Aluminum	ppm	ASTM D5185m	>15	**2**	<1	---
Lead	ppm	ASTM D5185m	>18	**<1**	<1	---
Copper	ppm	ASTM D5185m	>80	**0**	0	---
Tin	ppm	ASTM D5185m	>14	**<1**	0	---
Vanadium	ppm	ASTM D5185m		**0**	0	---
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Silicon	ppm	ASTM D5185m	>20	**4**	4	---
Potassium	ppm	ASTM D5185m	>20	**2**	2	---
Fuel	%	ASTM D3524	>4.0	▲ **7.9**	<1.0	---
Water		WC Method	>0.1	**NEG**	NEG	---
Glycol		WC Method		**NEG**	NEG	---
Soot %	%	*ASTM D7844		**0.3**	0.4	---
Nitration	Abs/cm	*ASTM D7624	>20	**10.0**	10.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.2**	20.2	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	---
Sodium	ppm	ASTM D5185m	>75	**1**	6	---
Boron	ppm	ASTM D5185m	151	**61**	17	---
Barium	ppm	ASTM D5185m	0.4	**0**	0	---
Molybdenum	ppm	ASTM D5185m	250	**0**	60	---
Manganese	ppm	ASTM D5185m		**<1**	0	---
Magnesium	ppm	ASTM D5185m	0	**691**	867	---
Calcium	ppm	ASTM D5185m	2046	**1220**	1151	---
Phosphorus	ppm	ASTM D5185m	1043	**658**	979	---
Zinc	ppm	ASTM D5185m	943	**759**	1217	---
Sulfur	ppm	ASTM D5185m	5012	**3073**	3810	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.2**	18.6	---
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	**7.2**	6.1	---
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **11.8**	12.7	---

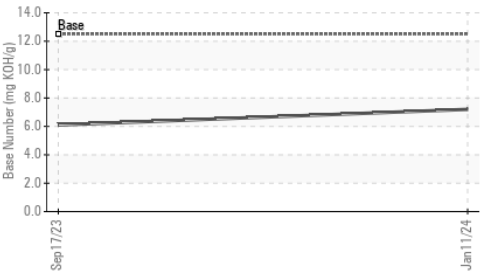
Fuel Dilution



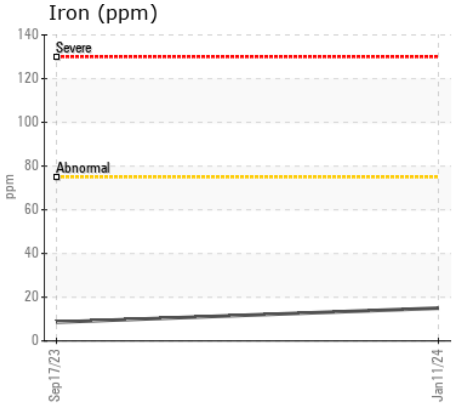
Viscosity @ 100°C



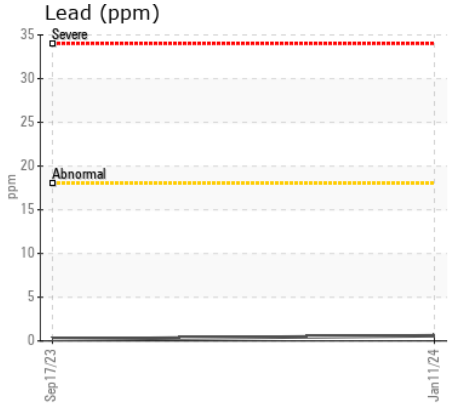
Base Number



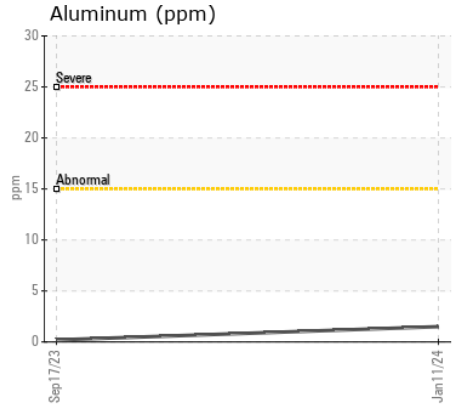
Iron (ppm)



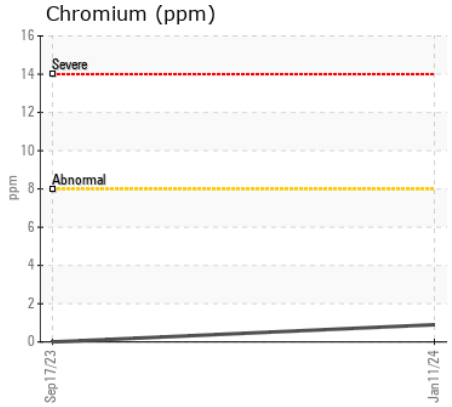
Lead (ppm)



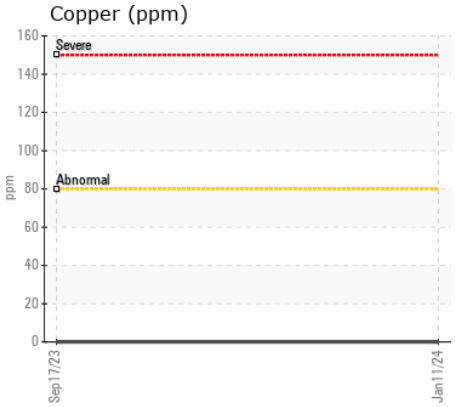
Aluminum (ppm)



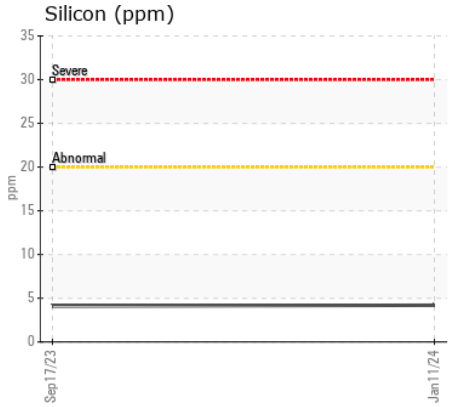
Chromium (ppm)



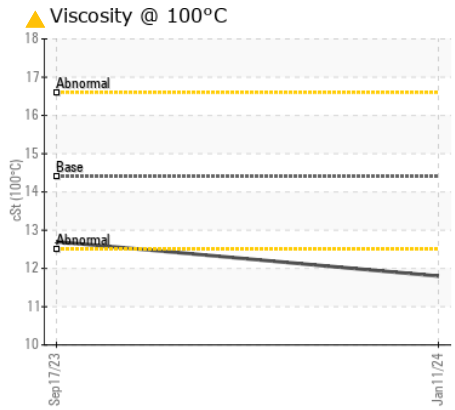
Copper (ppm)



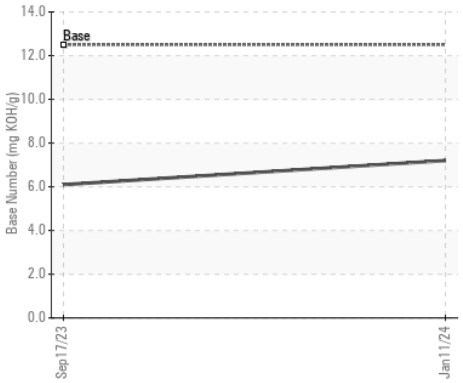
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0005007 **Received** : 13 Feb 2024
Lab Number : 06087955 **Tested** : 15 Feb 2024
Unique Number : 10875400 **Diagnosed** : 15 Feb 2024 - Wes Davis
Test Package : MOB1+ (Additional Tests: FuelDilution, 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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