



Machine Id
HBR
Component
Starboard Genset
Fluid
CHEVRON URSA SUPER PLUS 40 (5 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW05823788	MW05774581	MW05745129
Sample Date		Client Info		18 Apr 2023	22 Feb 2023	19 Jan 2023
Machine Age	hrs	Client Info		17919	17504	17099
Oil Age	hrs	Client Info		415	405	437
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>25	8	5	4
Chromium	ppm	ASTM D5185m	>5	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>10	1	3	2
Lead	ppm	ASTM D5185m	>10	<1	2	0
Copper	ppm	ASTM D5185m	>20	<1	0	<1
Tin	ppm	ASTM D5185m	>5	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Light fuel dilution occurring.

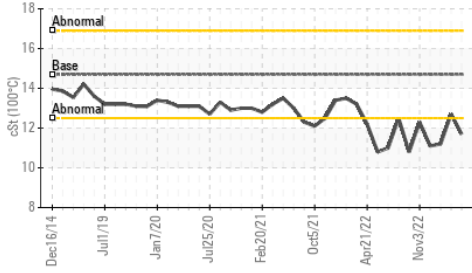
Silicon	ppm	ASTM D5185m	>25	6	6	5
Potassium	ppm	ASTM D5185m	>20	2	<1	0
Fuel	%	ASTM D3524	>4.0	▲ 3.8	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.7	5.7	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	20.4	24.2
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

FLUID CONDITION

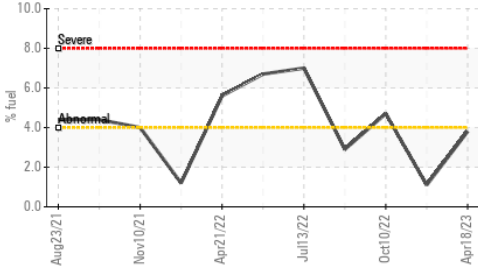
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	<1	0
Boron	ppm	ASTM D5185m		353	369	370
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		● 92	64	94
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		● 414	222	447
Calcium	ppm	ASTM D5185m		1994	2454	1287
Phosphorus	ppm	ASTM D5185m	1000	792	819	696
Zinc	ppm	ASTM D5185m	1090	968	1044	803
Sulfur	ppm	ASTM D5185m		2813	3152	2636
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.8	15.4	23.0
Base Number (BN)	mg KOH/g	ASTM D2896	7.4	7.3	7.3	6.6
Visc @ 100°C	cSt	ASTM D445	14.7	▲ 11.7	12.7	● 11.2

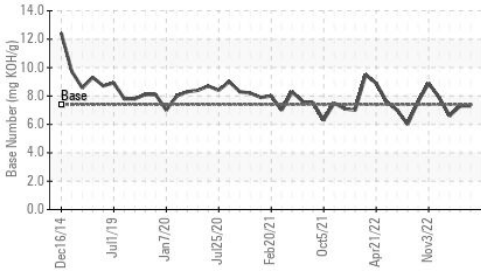
▲ Viscosity @ 100°C



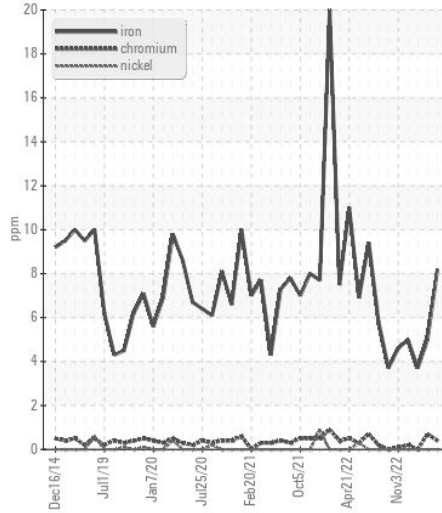
▲ Fuel Dilution



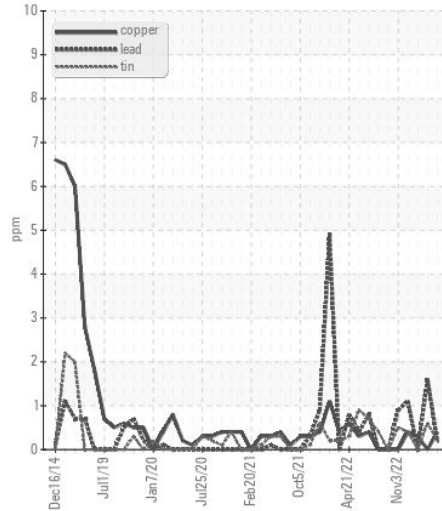
Base Number



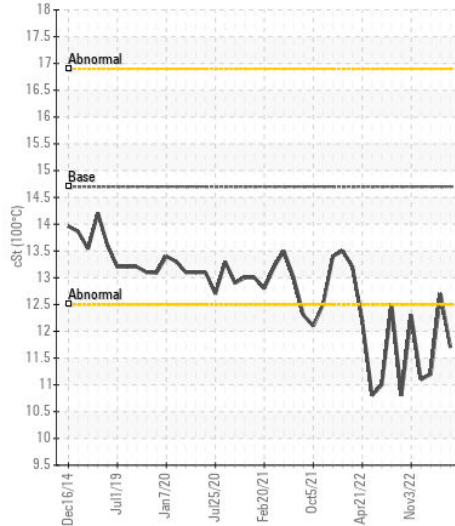
Ferrous Alloys



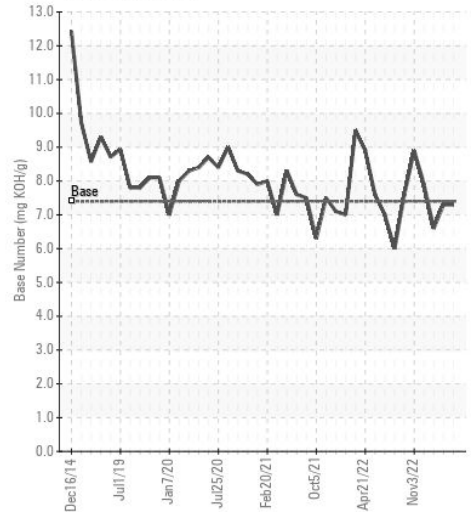
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW05823788 **Received** : 19 Apr 2023
Lab Number : 05823788 **Tested** : 21 Apr 2023
Unique Number : 10431871 **Diagnosed** : 21 Apr 2023 - Wes Davis
Test Package : MAR 2 (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)