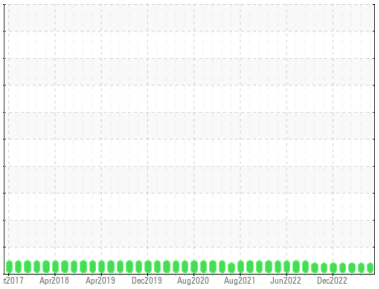
PROBLEM SUMMARY

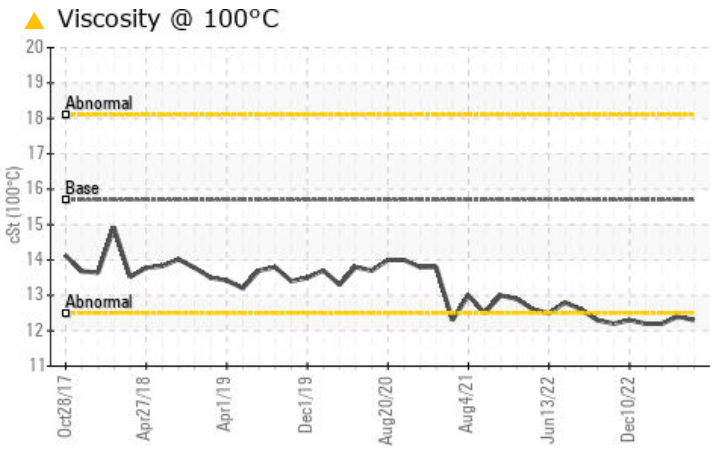
Sample Rating Trend



VISCOSITY

Area
AUBREY B HARWELL JR
Machine Id
[AUBREY B HARWELL JR] 008 579561-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**MARGINAL**	MARGINAL	MARGINAL
Visc @ 100°C	cSt	ASTM D445	15.7	▲ **12.3**	▲ 12.4	▲ 12.2

Customer Id: INGPAD
Sample No.: MW0060456
Lab Number: 05925239
Test Package: MAR 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

09 Jun 2023 Diag: Don Baldridge

VISCOSITY

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

30 Mar 2023 Diag: Don Baldridge

VISCOSITY

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

18 Feb 2023 Diag: Don Baldridge

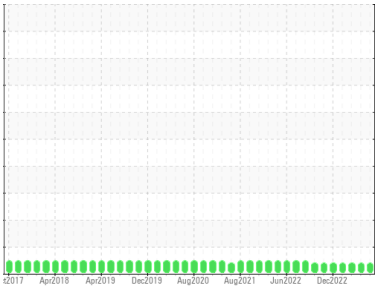
VISCOSITY

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Area
AUBREY B HARWELL JR
Machine Id
[AUBREY B HARWELL JR] 008 579561-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**MW0060456**	MW0052498	MW0041833
Sample Date		Client Info		**23 Jul 2023**	09 Jun 2023	30 Mar 2023
Machine Age	hrs	Client Info		**8490**	7995	7150
Oil Age	hrs	Client Info		**395**	405	411
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**MARGINAL**	MARGINAL	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>25	**11**	6	8
Chromium	ppm	ASTM D5185m	>5	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>5	**0**	0	0
Titanium	ppm	ASTM D5185m		**1**	<1	1
Silver	ppm	ASTM D5185m	>5	**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**2**	4	2
Lead	ppm	ASTM D5185m	>10	**0**	0	0
Copper	ppm	ASTM D5185m	>20	**0**	0	<1
Tin	ppm	ASTM D5185m	>5	**0**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

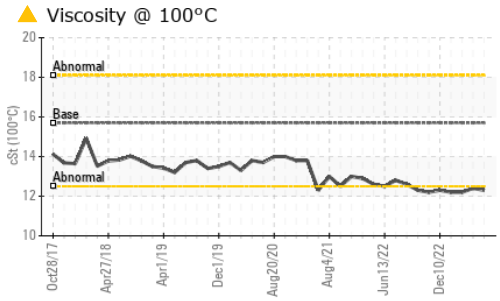
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**282**	268	328
Barium	ppm	ASTM D5185m		**0**	5	0
Molybdenum	ppm	ASTM D5185m		**129**	114	120
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**778**	594	694
Calcium	ppm	ASTM D5185m		**1740**	1477	1608
Phosphorus	ppm	ASTM D5185m	1200	**759**	607	706
Zinc	ppm	ASTM D5185m	1300	**967**	760	851
Sulfur	ppm	ASTM D5185m	3200	**3739**	2776	3204

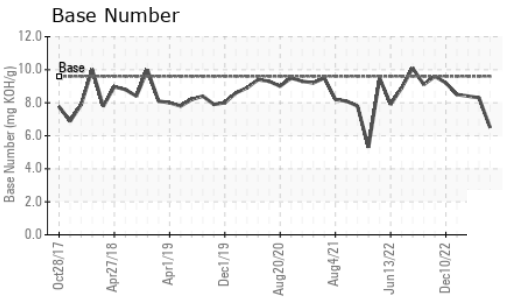
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	6	6
Sodium	ppm	ASTM D5185m		**0**	1	2
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**8.6**	7.8	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.3**	23.2	22.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.4**	18.3	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	**6.5**	8.3	8.4

OIL ANALYSIS REPORT



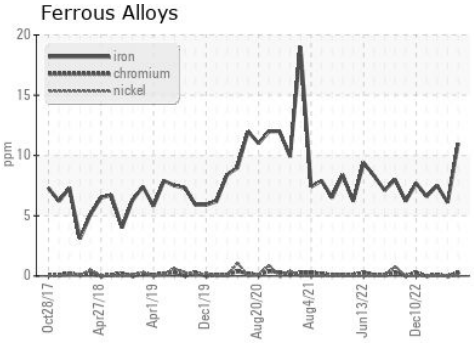


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

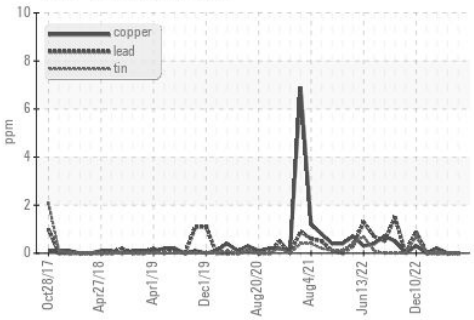
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	▲ **12.3**	▲ 12.4	▲ 12.2

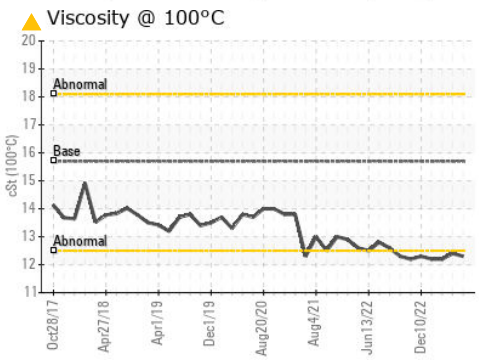
GRAPHS

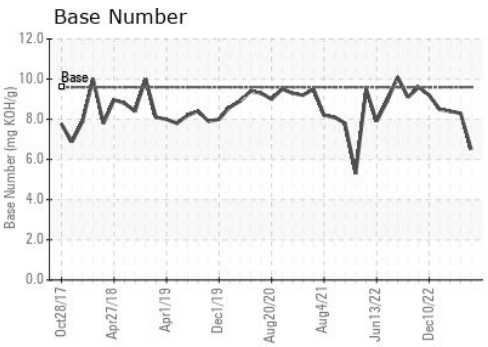
Ferrous Alloys



Non-ferrous Metals







Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0060456
Lab Number : 05925239
Unique Number : 10605186
Test Package : MAR 2
Received : 15 Aug 2023
Diagnosed : 16 Aug 2023
Diagnostician : Doug Bogart

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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