

OIL ANALYSIS REPORT

Area CRANE - T LANGE Machine Id T LANGE Component Starboard Genset

Starboard Genset Fluid CHEVRON DELO 400 LE 15W40 (5 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

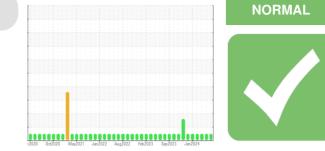
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0892631	WC0892645	WC0892641
Sample Date		Client Info		04 May 2024	09 Apr 2024	09 Mar 2024
Machine Age	hrs	Client Info		52559	52407	36756
Oil Age	hrs	Client Info		250	250	250
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	J	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	6	8	5
Chromium	ppm	ASTM D5185m		<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	3	4	4
Lead	ppm	ASTM D5185m	>17	0	0	0
Copper	ppm	ASTM D5185m		<1	<1	<1
Tin	ppm		>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	maa	method ASTM D5185m	limit/base	current 440	history1 441	history2 342
	ppm ppm	ASTM D5185m	limit/base			
Boron Barium	ppm		limit/base	440	441 0	342 <1
Boron	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	440 0	441	342
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	440 0 135	441 0 135	342 <1 130
Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	440 0 135 <1	441 0 135 <1	342 <1 130 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	440 0 135 <1 716	441 0 135 <1 746	342 <1 130 <1 659
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		440 0 135 <1 716 1703	441 0 135 <1 746 1670	342 <1 130 <1 659 1582
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200	440 0 135 <1 716 1703 783	441 0 135 <1 746 1670 786	342 <1 130 <1 659 1582 690
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200 1300	440 0 135 <1 716 1703 783 902	441 0 135 <1 746 1670 786 910	342 <1 130 <1 659 1582 690 877
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base	440 0 135 <1 716 1703 783 902 3036	441 0 135 <1 746 1670 786 910 3100	342 <1 130 <1 659 1582 690 877 2585
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base	440 0 135 <1 716 1703 783 902 3036 current	441 0 135 <1 746 1670 786 910 3100 history1	342 <1 130 <1 659 1582 690 877 2585 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1200 1300 3200 limit/base	440 0 135 <1 716 1703 783 902 3036 current 6	441 0 135 <1 746 1670 786 910 3100 history1 6	342 <1 130 <1 659 1582 690 877 2585 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1200 1300 3200 limit/base >25	440 0 135 <1 716 1703 783 902 3036 <u>current</u> 6 1	441 0 135 <1 746 1670 786 910 3100 history1 6 2	342 <1 130 <1 659 1582 690 877 2585 history2 6 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20	440 0 135 <1 716 1703 783 902 3036 current 6 1 0	441 0 135 <1 746 1670 786 910 3100 history1 6 2 0	342 <1 130 <1 659 1582 690 877 2585 history2 6 2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20	440 0 135 <1 716 1703 783 902 3036 current 6 1 0 current 0.2	441 0 135 <1 746 1670 786 910 3100 history1 6 2 0 history1 0.2	342 <1 130 <1 659 1582 690 877 2585 history2 6 2 2 2 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20 limit/base	440 0 135 <1 716 1703 783 902 3036 current 6 1 0 0	441 0 135 <1 746 1670 786 910 3100 history1 6 2 0 0	342 <1 130 <1 659 1582 690 877 2585 history2 6 2 2 2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20 limit/base	440 0 135 <1 716 1703 783 902 3036 current 6 1 0 current 0.2 7.1	441 0 135 <1 746 1670 786 910 3100 history1 6 2 0 history1 0.2 7.2	342 <1 130 <1 659 1582 690 877 2585 history2 6 2 2 2 history2 0.1 6.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20 limit/base	440 0 135 <1 716 1703 783 902 3036 current 6 1 0 current 0.2 7.1 21.2	441 0 135 <1 746 1670 786 910 3100 history1 6 2 0 history1 0.2 7.2 22.5	342 <1 130 <1 659 1582 690 877 2585 history2 6 2 2 2 history2 0.1 6.6 22.6

Sample Rating Trend



10

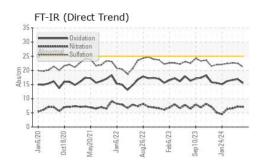
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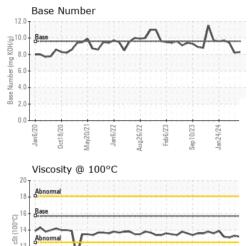
n6/20

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ay20/21

OIL ANALYSIS REPORT



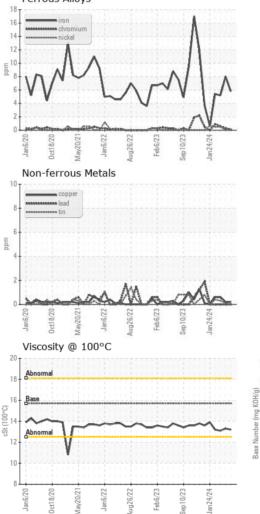


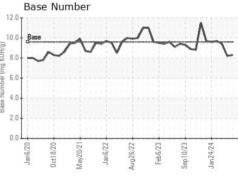
Aug26/22

Feb.6/23 tep10/23

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 PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	13.2	13.3	13.1
GRAPHS						

Ferrous Alloys





ASSOCIATED TERMINALS - CRANE

CONVENT, LA US 70723 Contact: GREG JOSEY gjosey@associatedterminals.com T: 106:2012) F: (225)562-3515

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

: WC0892631

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

Tested

: 17 May 2024

: 21 May 2024

: 21 May 2024 - Wes Davis

Report Id: STJCONKL [WUSCAR] 06183710 (Generated: 05/21/2024 15:18:35) Rev: 1

Certificate 12367

Laboratory

Sample No.

Lab Number : 06183710

Unique Number : 11035036

Test Package : FLEET

Contact/Location: GREG JOSEY - STJCONKL