

# **OIL ANALYSIS REPORT**

#### Sample Rating Trend

### NORMAL

## Area CRANE - T LANGE T LANGE Component

#### Component 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

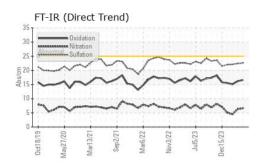
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

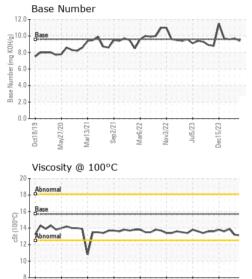
2019 May020 May021 Bay001 Max202 Bac002 Ju0023 Bac003											
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2019 May2020 Mar2021 Sep2021 Mar2022 Nov2022 Jul2023 Dec2023											
	t2019 May	y2020 Mar	r2021 Sep2	2021 Mar2	022 Nov	2022 J	ul2023	Dec2	023		

SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0892641	WC0892616	WC0892618
Sample Date		Client Info		09 Mar 2024	14 Feb 2024	24 Jan 2024
Machine Age	hrs	Client Info		36756	51824	51877
Oil Age	hrs	Client Info		250	250	179
Oil Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	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	5	5	<1
Chromium	ppm	ASTM D5185m	>4	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	4	5	4
Lead	ppm	ASTM D5185m	>17	0	0	0
Copper	ppm	ASTM D5185m	>70	<1	<1	0
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		<1	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base			history2 383
			limit/base	current	history1	
Boron	ppm	ASTM D5185m	limit/base	current 342	history1 346	383
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	current 342 <1	history1 346 <1	383 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 342 <1 130	history1 346 <1 128	383 0 116
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 342 <1 130 <1	history1 346 <1 128 <1	383 0 116 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 342 <1 130 <1 659	history1 346 <1 128 <1 656 1570 687	383 0 116 <1 661 1450 687
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		current           342           <1           130           <1           659           1582	history1 346 <1 128 <1 656 1570	383 0 116 <1 661 1450
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200	Current 342 <1 130 <1 659 1582 690	history1 346 <1 128 <1 656 1570 687	383 0 116 <1 661 1450 687
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200 1300	Current 342 <1 130 <1 659 1582 690 877	history1         346         <1         128         <1         656         1570         687         865	383 0 116 <1 661 1450 687 836
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	1200 1300 3200	Current 342 <1 130 <1 659 1582 690 877 2585	history1 346 <1 128 <1 656 1570 687 865 2568	383 0 116 <1 661 1450 687 836 2490
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm 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	Current 342 <1 130 <1 659 1582 690 877 2585 Current	history1         346         <1         128         <1         656         1570         687         865         2568         history1         6         2	383 0 116 <1 661 1450 687 836 2490 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 <b>method</b>	1200 1300 3200 limit/base	Current         342         <1         130         <1         659         1582         690         877         2585         current         6	history1         346         <1         128         <1         656         1570         687         865         2568         history1         6	383 0 116 <1 661 1450 687 836 2490 history2 4
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 <b>method</b> ASTM D5185m	1200 1300 3200 limit/base >25	342         <1         130         <1         659         1582         690         877         2585         current         6         2	history1         346         <1         128         <1         656         1570         687         865         2568         history1         6         2	383 0 116 <1 661 1450 687 836 2490 history2 4 <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	Current         342         <1         130         <1         659         1582         690         877         2585         current         6         2         2	history1         346         <1         128         <1         656         1570         687         865         2568         history1         6         2         3	383 0 116 <1 661 1450 687 836 2490 history2 4 <1 3
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	Current 342 <1 130 <1 659 1582 690 877 2585 Current 6 2 2 2 Current	history1         346         <1         128         <1         656         1570         687         865         2568         history1         6         2         3         history1	383 0 116 <1 661 1450 687 836 2490 history2 4 <1 3 <i>history2</i>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20 limit/base	Current         342         <1         130         <1         659         1582         690         877         2585         current         6         2         2         current         0.1	history1         346         <1         128         <1         656         1570         687         865         2568         history1         6         2         3         history1         0.1	383 0 116 <1 661 1450 687 836 2490 history2 4 <1 3 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc 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	Current         342         <1         130         <1         659         1582         690         877         2585         current         6         2         2         current         0.1         6.6	history1         346         <1         128         <1         656         1570         687         865         2568         history1         6         2         3         history1         0.1         6.3	383 0 116 <1 661 1450 687 836 2490 history2 4 <1 3 history2 0 4.5
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 >20 >20	Current         342         <1         130         <1         659         1582         690         877         2585         current         6         2         current         0.1         6.6         22.6	history1         346         <1         128         <1         656         1570         687         865         2568         history1         6         2         3         history1         0.1         6.3         22.4	383 0 116 <1 661 1450 687 836 2490 <b>history2</b> 4 <1 3 <b>history2</b> 0 4.5 22.1



# **OIL ANALYSIS REPORT**





Mar6/22

Oct18/19 DC/LCneV Mar13/21 PU2/2121 ul5/23

Dec15/23

Laboratory

Sample No.

Lab Number : 06156596

: WC0892641

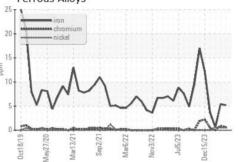
Vov3/22

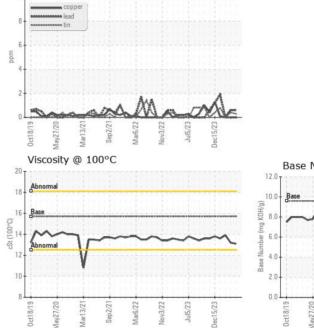
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	13.1	13.2	13.9

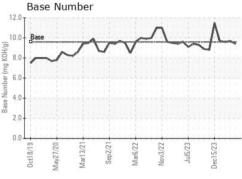
Ferrous Alloys

Non-ferrous Metals

10







#### **ASSOCIATED TERMINALS - CRANE**

CONVENT, LA US 70723 Contact: GREG JOSEY gjosey@associatedterminals.com T:

F: (225)562-3515



Unique Number : 10992019 Diagnosed : 23 Apr 2024 - Wes Davis Test Package : FLEET Certificate 12367 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)

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

Received

Tested

: 22 Apr 2024

: 23 Apr 2024

Report Id: STJCONKL [WUSCAR] 06156596 (Generated: 04/23/2024 16:31:04) Rev: 1

Contact/Location: GREG JOSEY - STJCONKL