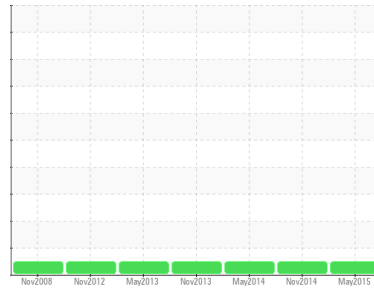




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
G5-01111 Approved Boat (FRC) (S/N SSEDC 01111)
 Component
Diesel Engine
 Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (10 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the component.

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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC62006429	WC62005898	WC62005690
Sample Date	Client Info		15 May 2015	08 Nov 2014	25 May 2014
Machine Age	hrs	Client Info	176	93	74
Oil Age	hrs	Client Info	0	15	16
Oil Changed	Client Info		Not Changed	Not Changd	Not Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>6.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>100	3	3	5
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		<1	<1	<1
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	1	<1	1
Lead	ppm	ASTM D5185(m)	>40	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>330	1	<1	2
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		1	2	1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	<1	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	2.5	1	1	3
Barium	ppm	ASTM D5185(m)	0.0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0.7	38	34	36
Manganese	ppm	ASTM D5185(m)	0.0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	256	758	686	745
Calcium	ppm	ASTM D5185(m)	2057	1140	1022	1314
Phosphorus	ppm	ASTM D5185(m)	935	1022	893	1062
Zinc	ppm	ASTM D5185(m)	1223	1171	1047	1260
Sulfur	ppm	ASTM D5185(m)	4079	3169	2793	3624
Lithium	ppm	ASTM D5185(m)		<1	0	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	9	8	10
Sodium	ppm	ASTM D5185(m)		1	0	4
Potassium	ppm	ASTM D5185(m)	>20	1	2	1

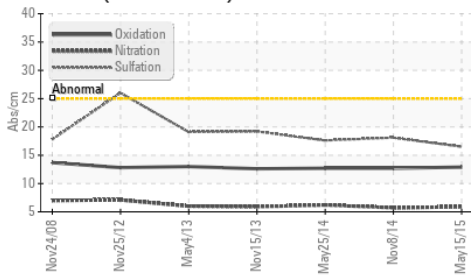
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*		5.9	5.7	6.2
Sulfation	Abs/.1mm	ASTM D7415*		16.5	18.1	17.6

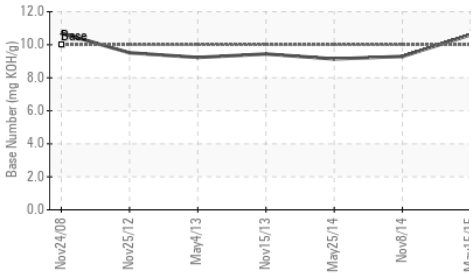


OIL ANALYSIS REPORT

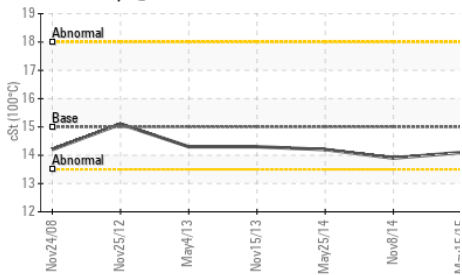
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



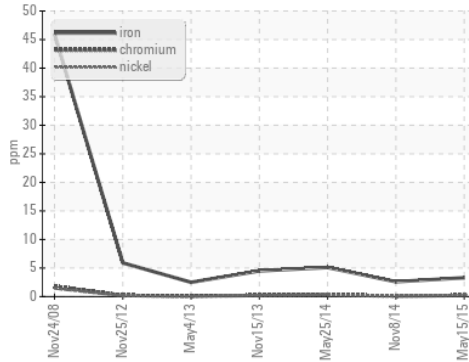
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*		12.9	12.7	12.7
Base Number (BN)	mg KOH/g	ASTM D2896*	10	10.6	9.29	9.14

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

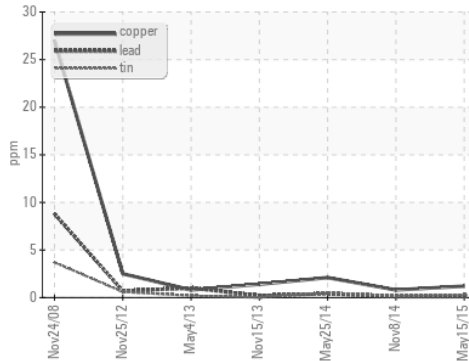
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	14.1	13.9	14.2

GRAPHS

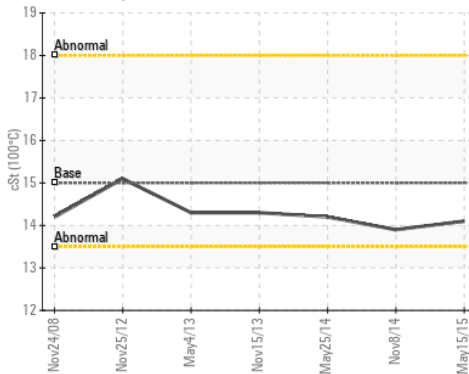
Ferrous Alloys



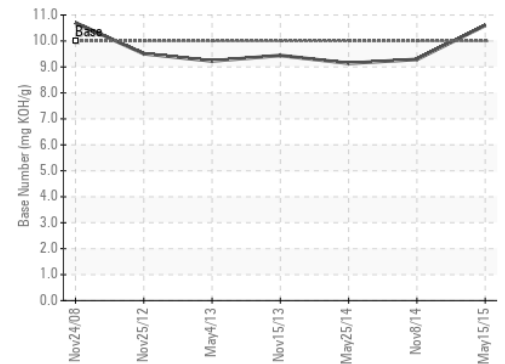
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC62006429
Lab Number : **01997193**
Unique Number : 4119420
Test Package : MAR 2
Received : 25 May 2015
Tested : 26 May 2015
Diagnosed : 27 May 2015 - Kevin Marson

CANADIAN COAST GUARD
 CCGS GRIFFON, PO BOX 1000, 401 KING ST.W
 Prescott, ON
 CA K6V 5T3
 Contact: Laurie Bosley
 Laurie.Bosley@dfo-mpo.gc.ca

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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