



OIL ANALYSIS REPORT

WEAR	MARGINAL
CONTAMINANTS	NORMAL
OIL CONDITION	NORMAL

Machine Id
PH601.056.14 STBD MAIN ENGINE (S/N 12012503)

Component
Starboard Main Engine

Fluid
PETRO CANADA BP ENERGOL DS3 154 (1000 LTR)

RECOMMENDATION

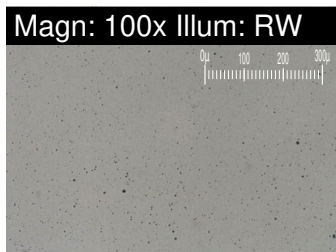
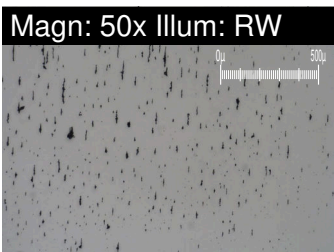
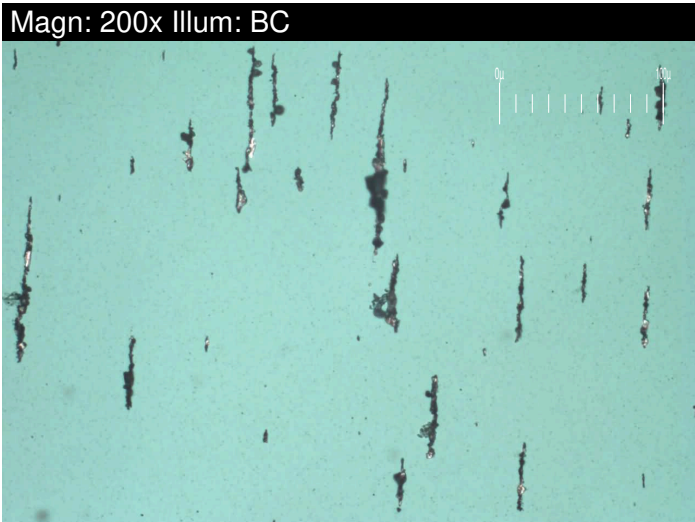
We recommend an early resample to monitor this condition. No other corrective action is recommended at this time. Please specify the component make and model with your next sample.

WEAR

Light concentration of visible metal present. The ferrography results are normal indicating no abnormal wear in the system.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0895918	WC0785234	WC0119107
Sample Date		Client Info		25 Jun 2024	26 Dec 2023	04 Aug 2003
Machine Age	hrs	Client Info		0	25	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				MARGINAL	NORMAL	NORMAL

PQ		ASTM D8184*		0	0	---
Iron	ppm	ASTM D5185(m)	>75	4	3	4
Chromium	ppm	ASTM D5185(m)	>8	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	0
Titanium	ppm	ASTM D5185(m)	>3	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>15	2	2	<1
Lead	ppm	ASTM D5185(m)	>18	0	<1	0
Copper	ppm	ASTM D5185(m)	>80	<1	<1	2
Tin	ppm	ASTM D5185(m)	>14	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	VLITE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Large Particles		DR-Ferr*		16.6	19.7	---
Small Particles		DR-Ferr*		5.9	6.6	---
Total Particles		DR-Ferr*	>---	22.5	26.3	---
Large Particles Percentage	%	DR-Ferr*		47.6	49.8	---
Severity Index		DR-Ferr*		178	258	---
Ferrous Rubbing	Scale 0-10	ASTM D7684*		3	2	
Ferrous Sliding	Scale 0-10	ASTM D7684*			1	
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1		
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*		1		
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				



CONTAMINANTS

There is no indication of any contamination in the oil.

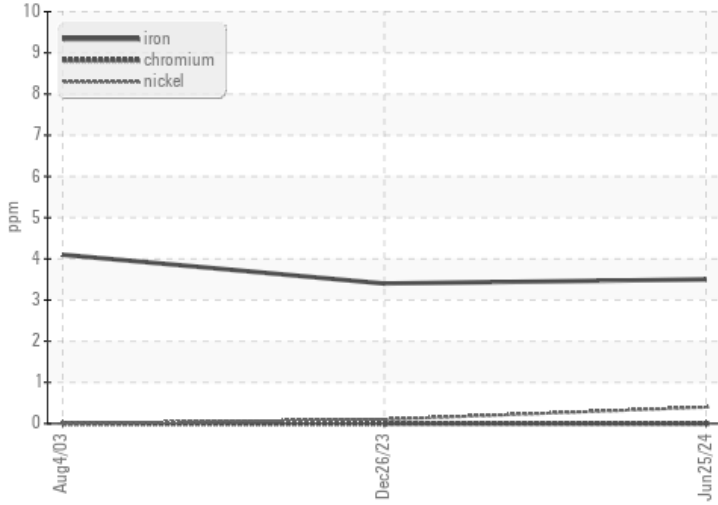
Silicon	ppm	ASTM D5185(m)	>20	10	10	5
Potassium	ppm	ASTM D5185(m)	>20	<1	1	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*		0	0	---
Nitration	Abs/cm	ASTM D7624*	>20	8.5	7.7	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	13.5	13.6	---
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	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
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		1	1	
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		2		

OIL CONDITION

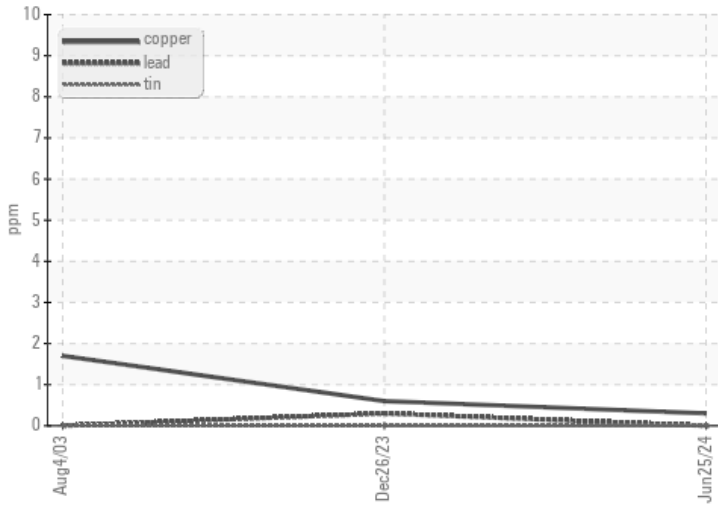
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)	>75	<1	<1	2
Boron	ppm	ASTM D5185(m)	0	3	2	6
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<1	2	0
Manganese	ppm	ASTM D5185(m)		<1	0	<1
Magnesium	ppm	ASTM D5185(m)	15	27	52	20
Calcium	ppm	ASTM D5185(m)	5500	4890	4926	5927
Phosphorus	ppm	ASTM D5185(m)	580	845	874	428
Zinc	ppm	ASTM D5185(m)	650	961	964	577
Sulfur	ppm	ASTM D5185(m)	8500	9554	9934	5626
Oxidation	Abs/.1mm	ASTM D7414*	>25	6.9	6.6	---
Base Number (BN)	mg KOH/g	ASTM D2896*	15	15.05	14.98	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.0	13.2	13.1	---
Lubricant Degradation	Scale 0-10	ASTM D7684*				

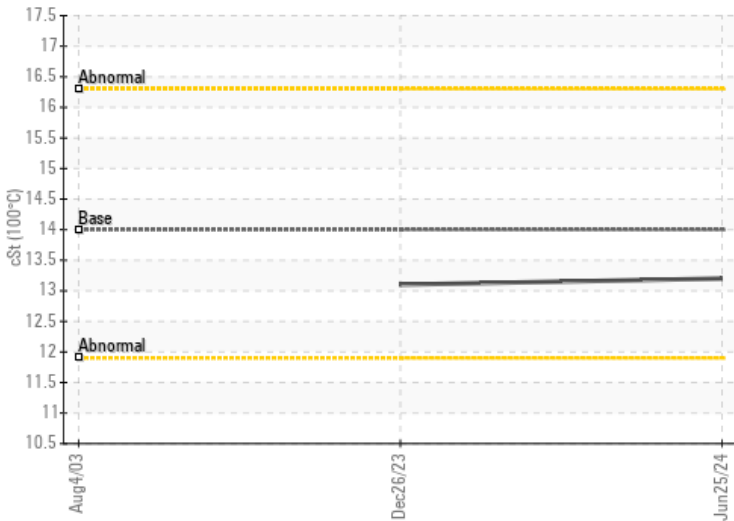
Ferrous Alloys



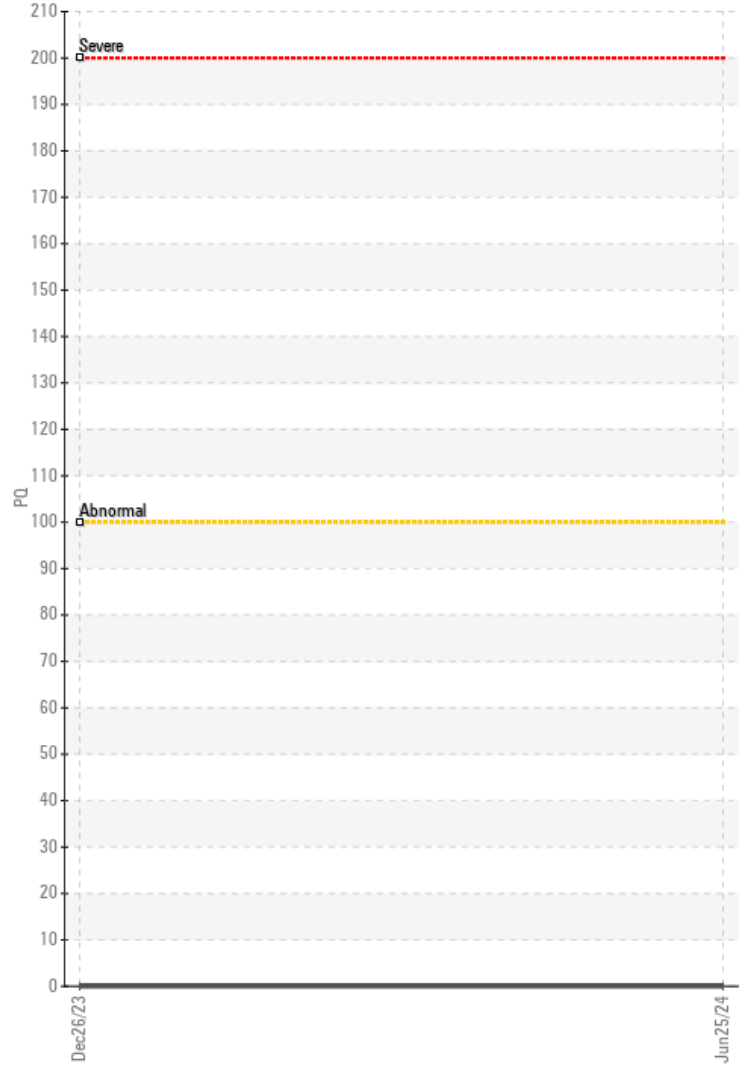
Non-ferrous Metals



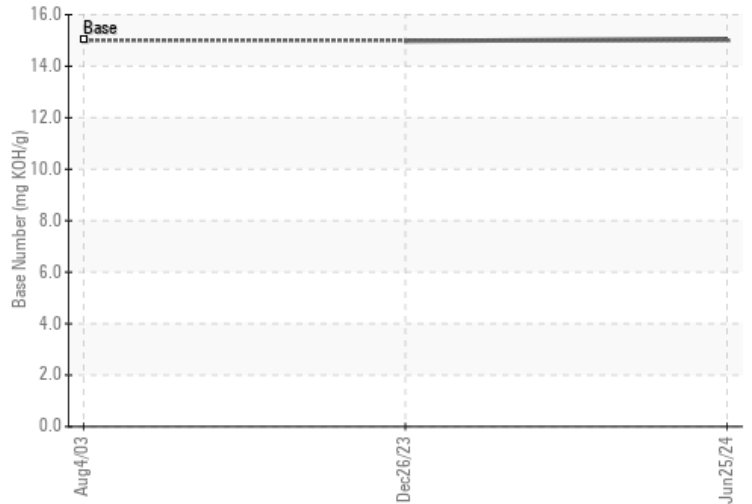
Viscosity @ 100°C



PQ



Base Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0895918
Lab Number : 02645119
Unique Number : 5802658
Test Package : MAR 3 (Additional Tests: BottomAnalysis, FILTERPATCH, Visual)

CANSHIP UGLAND LTD - M/V PLACENTIA PRIDE
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 MOUNT PEARL, NL
 CA A1N 4S6
 Contact: Don Gibbons
 don@canship.com
 T: (709)782-3333
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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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