



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	NORMAL
OIL CONDITION	NORMAL

Area

Engine room

Machine Id

SSG #1 (S/N 1SS01190)

Component

1 Diesel Engine

Fluid

PETRO CANADA DURON HP 15W40 (62 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0896726	WC0772123	WC0772121
Sample Date		Client Info		10 Feb 2024	23 Nov 2023	19 Oct 2023
Machine Age	hrs	Client Info		56576	56076	55551
Oil Age	hrs	Client Info		500	525	505
Filter Age	hrs	Client Info		500	525	505
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

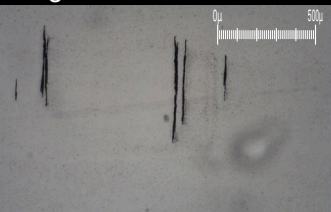
All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

PQ		ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>80	13	16	19
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	0
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>10	1	1	1
Lead	ppm	ASTM D5185(m)	>15	2	6	17
Copper	ppm	ASTM D5185(m)	>230	16	135	581
Tin	ppm	ASTM D5185(m)	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Large Particles		DR-Ferr*		12.1	0.9	9.7
Small Particles		DR-Ferr*		7.5	0.2	3.9
Total Particles		DR-Ferr*	>---	19.6	1.1	13.6
Large Particles Percentage	%	DR-Ferr*		23.5	63.6	42.6
Severity Index		DR-Ferr*		56	1	56
Ferrous Rubbing	Scale 0-10	ASTM D7684*		3	1	3
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1	1	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	1	1
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*		1		
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*				

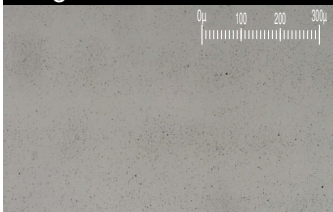
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



CONTAMINANTS

There is no indication of any contamination in the oil.

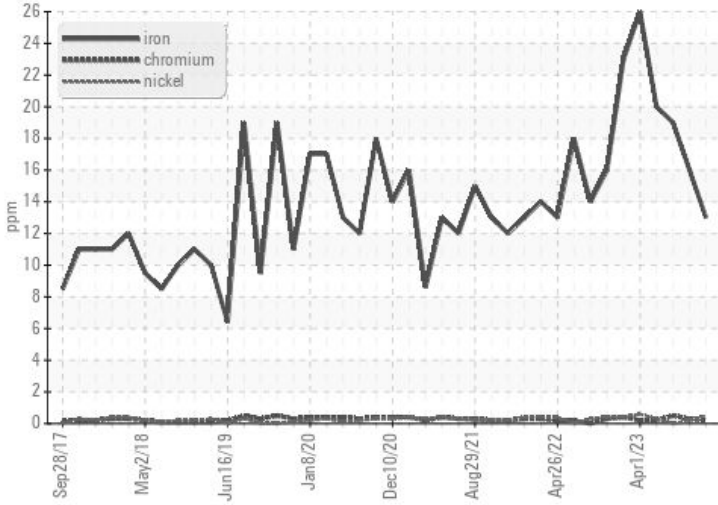
Silicon	ppm	ASTM D5185(m)	>25	4	4	12
Potassium	ppm	ASTM D5185(m)	>20	<1	0	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	0.0
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	9.0	9.2	8.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.7	22.5	21.7
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		1	1	1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		1	2	1

OIL CONDITION

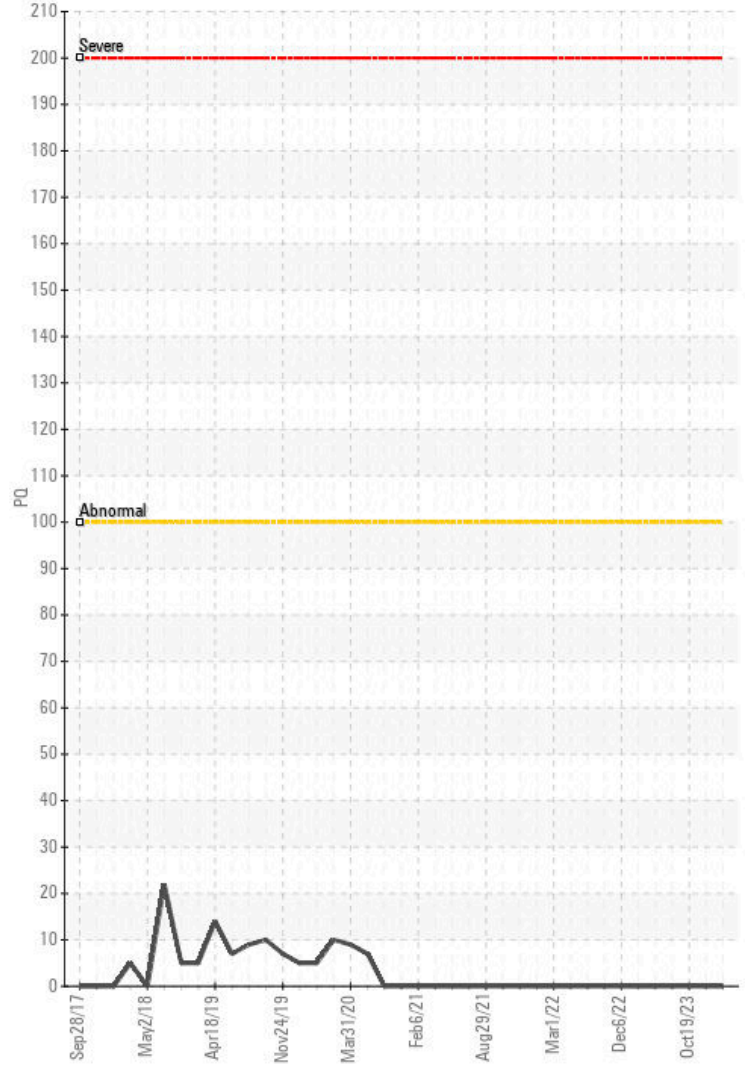
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		1	3	4
Boron	ppm	ASTM D5185(m)	0	5	7	3
Barium	ppm	ASTM D5185(m)	0	0	<1	<1
Molybdenum	ppm	ASTM D5185(m)	60	66	68	67
Manganese	ppm	ASTM D5185(m)	0	0	0	0
Magnesium	ppm	ASTM D5185(m)	1010	1073	1060	1056
Calcium	ppm	ASTM D5185(m)	1070	1158	1143	1149
Phosphorus	ppm	ASTM D5185(m)	1150	1070	1020	1046
Zinc	ppm	ASTM D5185(m)	1270	1292	1307	1295
Sulfur	ppm	ASTM D5185(m)	2060	2664	2290	2446
Oxidation	Abs/.1mm	ASTM D7414*	>25	21.5	21.8	19.8
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	10.04	10.48	9.39
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	15.2	15.3	14.8
Lubricant Degradation	Scale 0-10	ASTM D7684*				

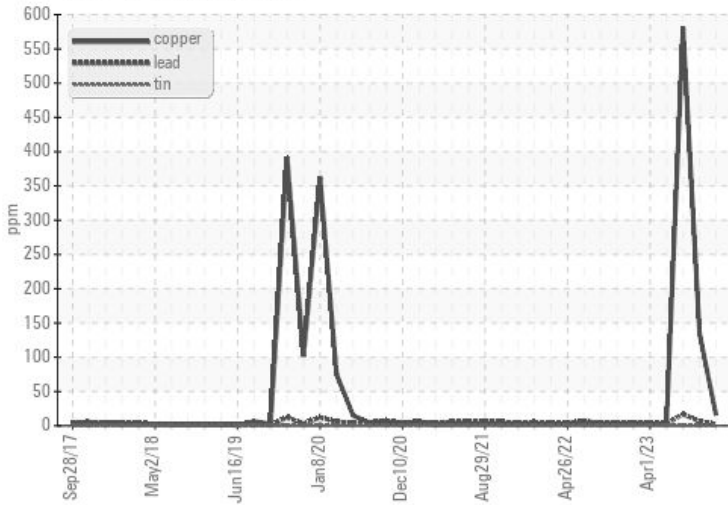
Ferrous Alloys



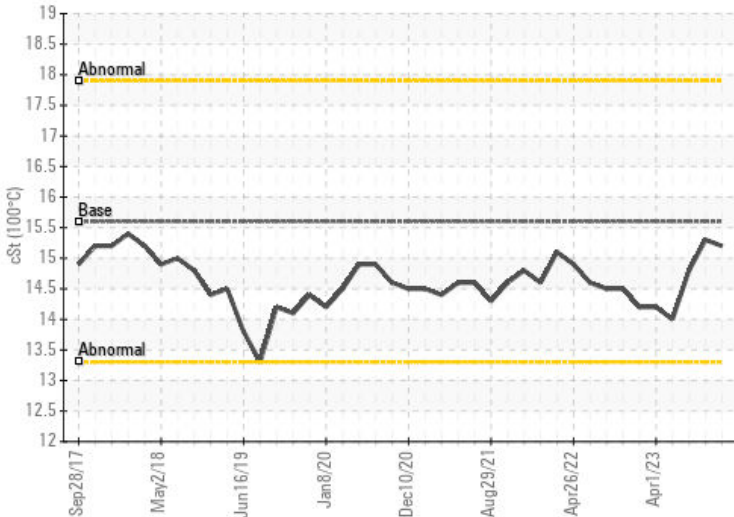
PQ



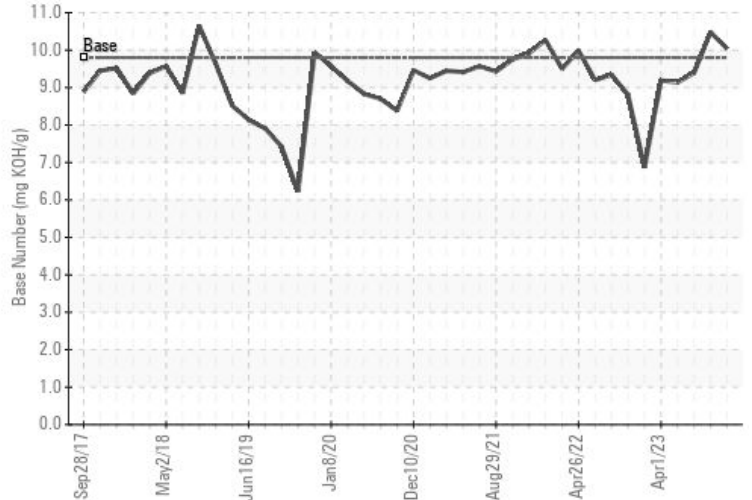
Non-ferrous Metals



Viscosity @ 100°C



Base Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0896726
Lab Number : 02619868
Unique Number : 5736978
Test Package : MAR 3

Received : 05 Mar 2024
Tested : 06 Mar 2024
Diagnosed : 07 Mar 2024 - 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.

F: (519)383-1994

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