



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	NORMAL
OIL CONDITION	NORMAL

Area

Engine room

Machine Id

SSG #3 (S/N 1SS01188)

Component

3 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		WC0855488	WC0855481	WC0772119
Sample Date		Client Info		23 Dec 2023	24 Sep 2023	25 May 2023
Machine Age	hrs	Client Info		53058	52008	51500
Oil Age	hrs	Client Info		519	500	498
Filter Age	hrs	Client Info		519	500	498
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	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	22	15
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	0
Nickel	ppm	ASTM D5185(m)	>4	<1	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>10	1	<1	<1
Lead	ppm	ASTM D5185(m)	>15	3	▲ 19	1
Copper	ppm	ASTM D5185(m)	>230	29	591	3
Tin	ppm	ASTM D5185(m)	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Large Particles		DR-Ferr*		13.7	8.0	7.5
Small Particles		DR-Ferr*		10.5	4.4	9.8
Total Particles		DR-Ferr*	>---	24.2	12.4	17.3
Large Particles Percentage	%	DR-Ferr*		13.2	29	0
Severity Index		DR-Ferr*		44	29	17
Ferrous Rubbing	Scale 0-10	ASTM D7684*		2	3	2
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	
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*				

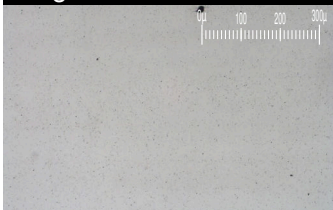
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



CONTAMINANTS

There is no indication of any contamination in the oil.

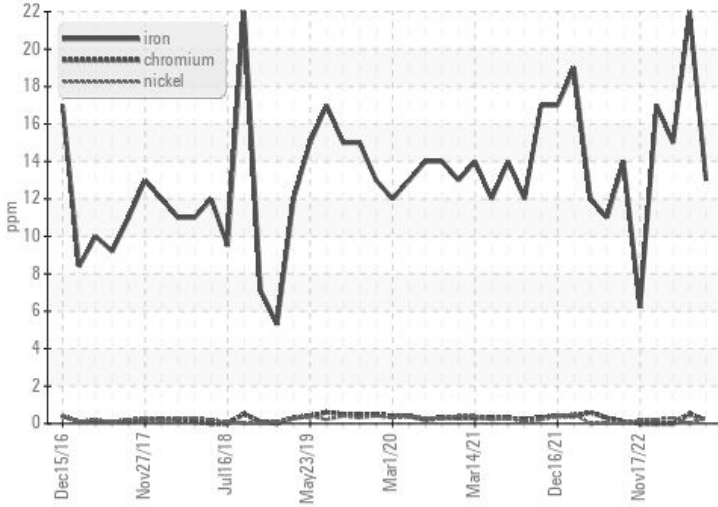
Silicon	ppm	ASTM D5185(m)	>25	4	11	2
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
Soot %	%	ASTM D7844*	>3	0.1	0.1	0.2
Nitration	Abs/cm	ASTM D7624*	>20	8.5	8.7	7.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.9	21.4	21.0
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	1	1

OIL CONDITION

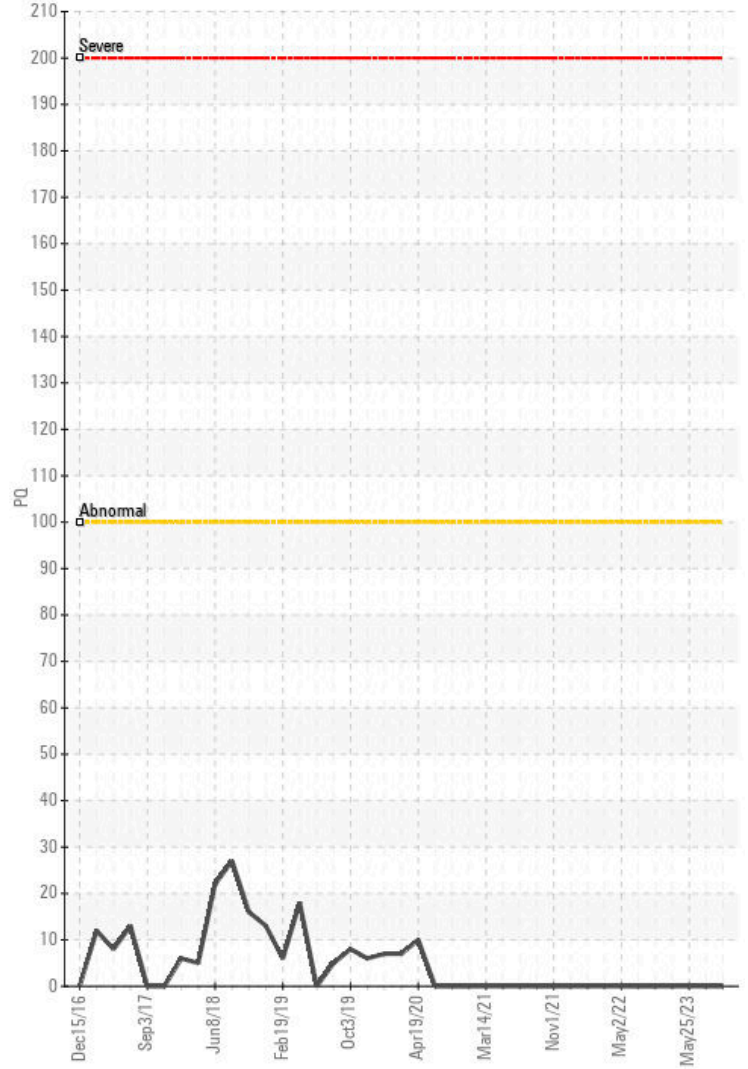
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		1	4	1
Boron	ppm	ASTM D5185(m)	0	6	1	2
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	65	69	62
Manganese	ppm	ASTM D5185(m)	0	0	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	1019	1048	1035
Calcium	ppm	ASTM D5185(m)	1070	1146	1121	1157
Phosphorus	ppm	ASTM D5185(m)	1150	1025	1051	1110
Zinc	ppm	ASTM D5185(m)	1270	1258	1269	1261
Sulfur	ppm	ASTM D5185(m)	2060	2620	2375	2607
Oxidation	Abs/.1mm	ASTM D7414*	>25	19.9	19.3	18.0
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	9.67	9.24	9.50
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	14.7	14.8	14.7
Lubricant Degradation	Scale 0-10	ASTM D7684*				

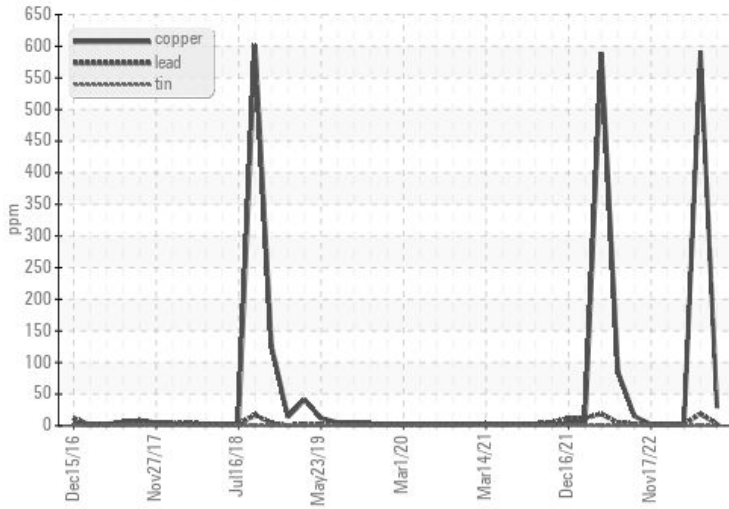
Ferrous Alloys



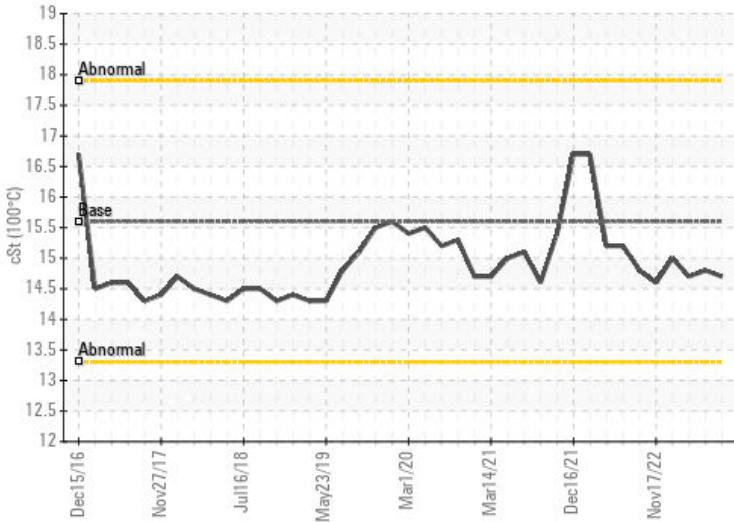
PQ



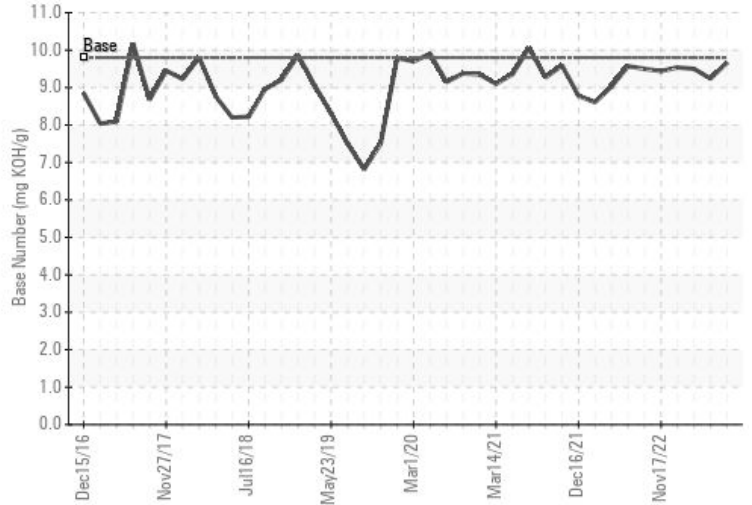
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0855488
Lab Number : 02606875
Unique Number : 5707961
Test Package : MAR 3

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
 T:
 F: (519)383-1994

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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