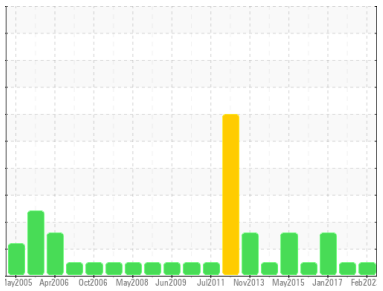
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
PAB DIESEL (S/N 69-E1-1081)
Component
Electromotive Diesel
Fluid
PETRO CANADA RALUBE 40 CFS (350 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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0455696**	WC0316876	WC933596
Sample Date		Client Info		**21 Feb 2023**	17 Jun 2021	24 Jan 2017
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**NORMAL**	NORMAL	ATTENTION

CONTAMINATION		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
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>75	**10**	10	6
Chromium	ppm	ASTM D5185(m)	>10	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	**<1**	<1	0
Titanium	ppm	ASTM D5185(m)		**<1**	0	0
Silver	ppm	ASTM D5185(m)	>5	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>7	**2**	2	2
Lead	ppm	ASTM D5185(m)	>50	**4**	4	3
Copper	ppm	ASTM D5185(m)	>100	**8**	7	6
Tin	ppm	ASTM D5185(m)	>10	**2**	1	<1
Antimony	ppm	ASTM D5185(m)		**<1**	0	1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

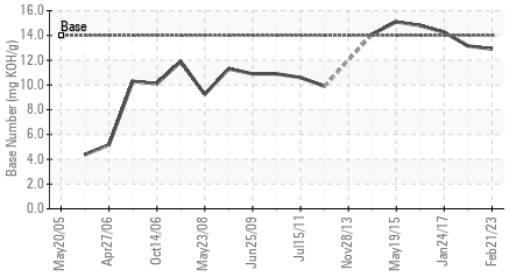
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Barium	ppm	ASTM D5185(m)	0	**0**	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0	**1**	1	1
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	25	**26**	25	21
Calcium	ppm	ASTM D5185(m)	4300	**4432**	4337	4450
Phosphorus	ppm	ASTM D5185(m)	1.6	**2**	3	3
Zinc	ppm	ASTM D5185(m)	2	**5**	5	4
Sulfur	ppm	ASTM D5185(m)	1500	**2863**	3343	4767
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>5	**5**	5	5
Sodium	ppm	ASTM D5185(m)		**20**	22	31
Potassium	ppm	ASTM D5185(m)	>20	**21**	22	24

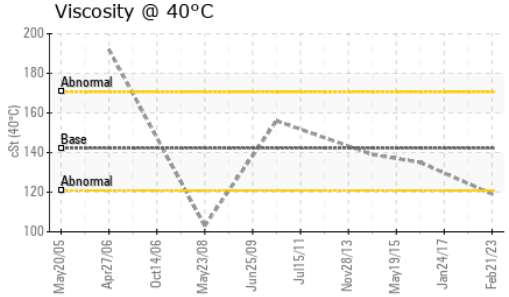
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**11.7**	12.0	12.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	**13.6**	14.1	16.5

OIL ANALYSIS REPORT

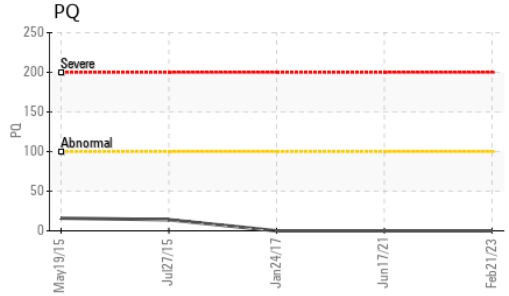
Base Number



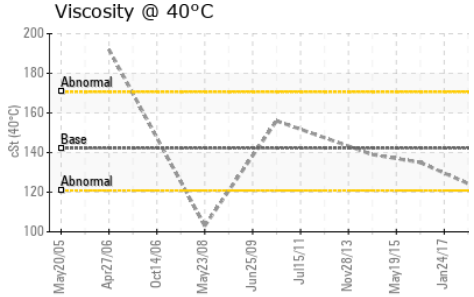
Viscosity @ 40°C



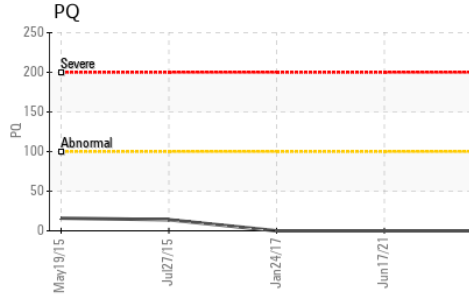
PQ



Viscosity @ 40°C



PQ



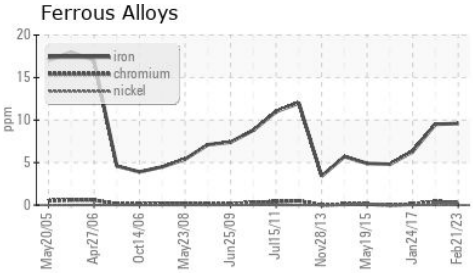
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**9.3**	9.6	8.7
Acid Number (AN)	mg KOH/g	ASTM D974*	1.50	**1.61**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896*	14.0	**12.90**	13.16	14.25

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	▲ VLITE
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	---	NONE
Silt	scalar	Visual*	NONE	**NONE**	---	NONE
Debris	scalar	Visual*	NONE	**NONE**	---	▲ VLITE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	NONE
Appearance	scalar	Visual*	NORML	**NORML**	---	NORML
Odor	scalar	Visual*	NORML	**NORML**	---	NORML
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

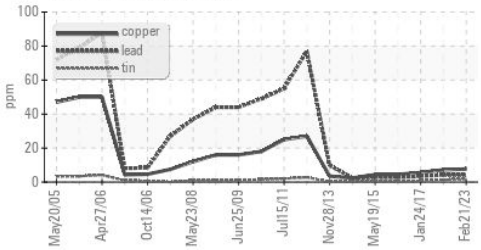
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	142.2	**119**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.8	**13.2**	13.0	13.7
Viscosity Index (VI)	Scale	ASTM D2270*	104	**105**	---	---

GRAPHS

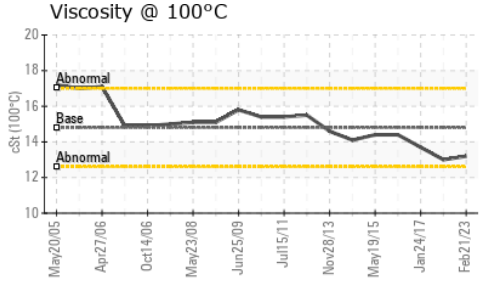
Ferrous Alloys



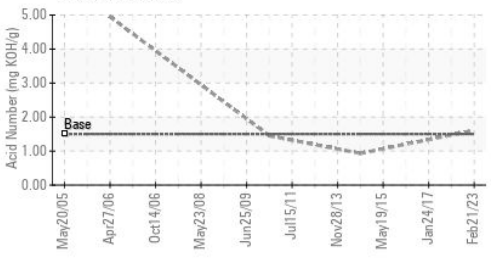
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0455696
Lab Number : 02554016
Unique Number : 5567031
Test Package : MOB 2 (Additional Tests: ICP-NewOil, KV40, PQ, PrtCount, TAN Auto, TAN Man, VI, Visual)

Received : 28 Apr 2023
Diagnosed : 03 May 2023
Diagnostician : Kevin Marson

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.

NEWFOUNDLAND POWER INC.
50 DUFFY PLACE, PO BOX 8910
ST. JOHNS, NL
CA A1B 3P6
Contact: Glenn Whitty
gwhitty@newfoundlandpower.com
T: (709)737-5326
F: (709)737-5867