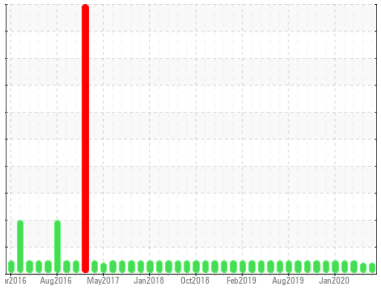
OIL ANALYSIS REPORT

Sample Rating Trend



INSOLUBLES

Area
Main Power Generation [71134276]
Machine Id
Generator - MPG (Port) Lube Oil System (S/N Sample Tag XX-80201-S1)
Component
Turbine
Fluid
PETRO CANADA TURBOFLO 32 (8300 LTR)

DIAGNOSIS

Recommendation

We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Wear

All component wear rates are normal.

Contamination

MPC (Membrane Patch Colorimetry) test indicates a light concentration of varnish present. The water content is negligible.

Fluid Condition

Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present 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		**PC**	PC	PC
Sample Date		Client Info		**06 Aug 2020**	09 Jun 2020	15 Apr 2020
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				**MARGINAL**	ATTENTION	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	5
Iron	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Chromium	ppm	ASTM D5185(m)	>4	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>2	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>10	**0**	0	0
Lead	ppm	ASTM D5185(m)		**<1**	0	0
Copper	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**<1**	<1	<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

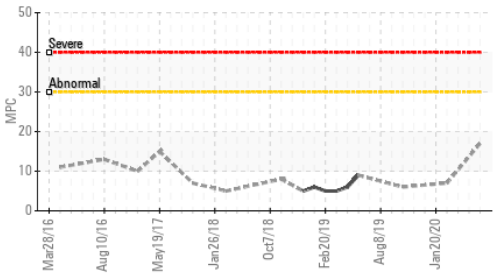
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**<1**	<1	0
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)	0	**<1**	0	<1
Calcium	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Phosphorus	ppm	ASTM D5185(m)	120	**262**	260	254
Zinc	ppm	ASTM D5185(m)	0.0	**<1**	<1	<1
Sulfur	ppm	ASTM D5185(m)	0	**504**	493	502
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Sodium	ppm	ASTM D5185(m)		**<1**	0	0
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Water	%	ASTM D6304*	>0.03	**0.001**	---	---
ppm Water	ppm	ASTM D6304*	>300	**12.2**	---	---

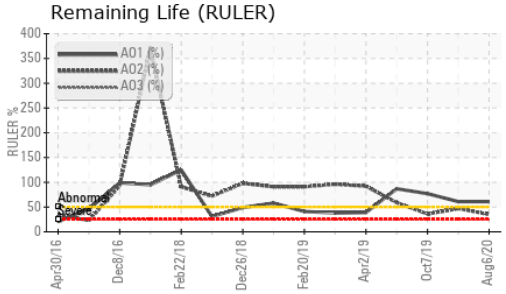
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	---	---
Nitration	Abs/cm	ASTM D7624*		**1.7**	---	---
Sulfation	Abs/.1mm	ASTM D7415*		**12.5**	---	---

OIL ANALYSIS REPORT

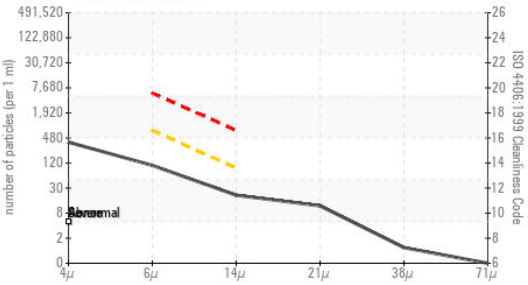
Varnish Potential



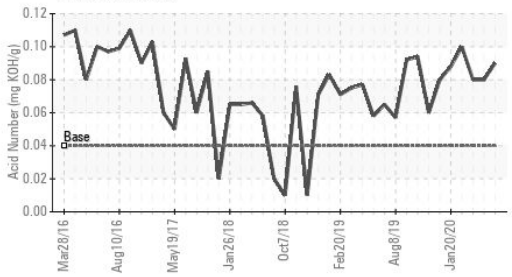
Remaining Life (RULER)



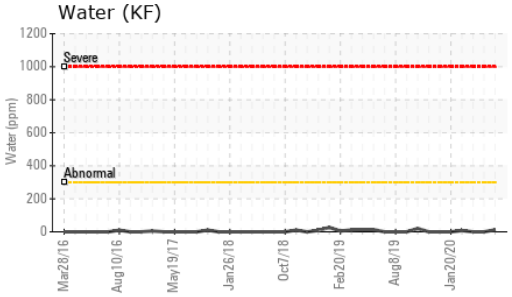
Particle Count



Acid Number



Water (KF)

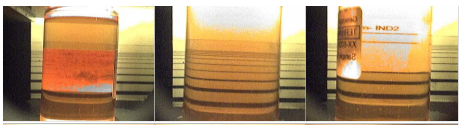
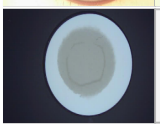


FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**335**	6536	516
Particles >6µm		ASTM D7647	>640	**93**	▲ 819	122
Particles >14µm		ASTM D7647	>80	**18**	12	14
Particles >21µm		ASTM D7647	>20	**10**	4	4
Particles >38µm		ASTM D7647	>4	**1**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>--/16/13	**16/14/11**	▲ 20/17/11	16/14/11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*		**3.7**	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.04	**0.09**	0.08	0.08
Anti-Oxidant 1	%	ASTM D6971*	<25	**61**	---	---
Anti-Oxidant 2	%	ASTM D6971*	<25	**35**	---	---
MPC Varnish Potential	Scale	ASTM D7843(m)*	>15	▲ **17**	---	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	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*	>0.03	**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)	34.0	**33.6**	33.6	33.5
Visc @ 100°C	cSt	ASTM D7279(m)	5.59	**5.6**	5.6	5.6
Viscosity Index (VI)	Scale	ASTM D2270*	110	**103**	103	104

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
MPC				*no image*	*no image*

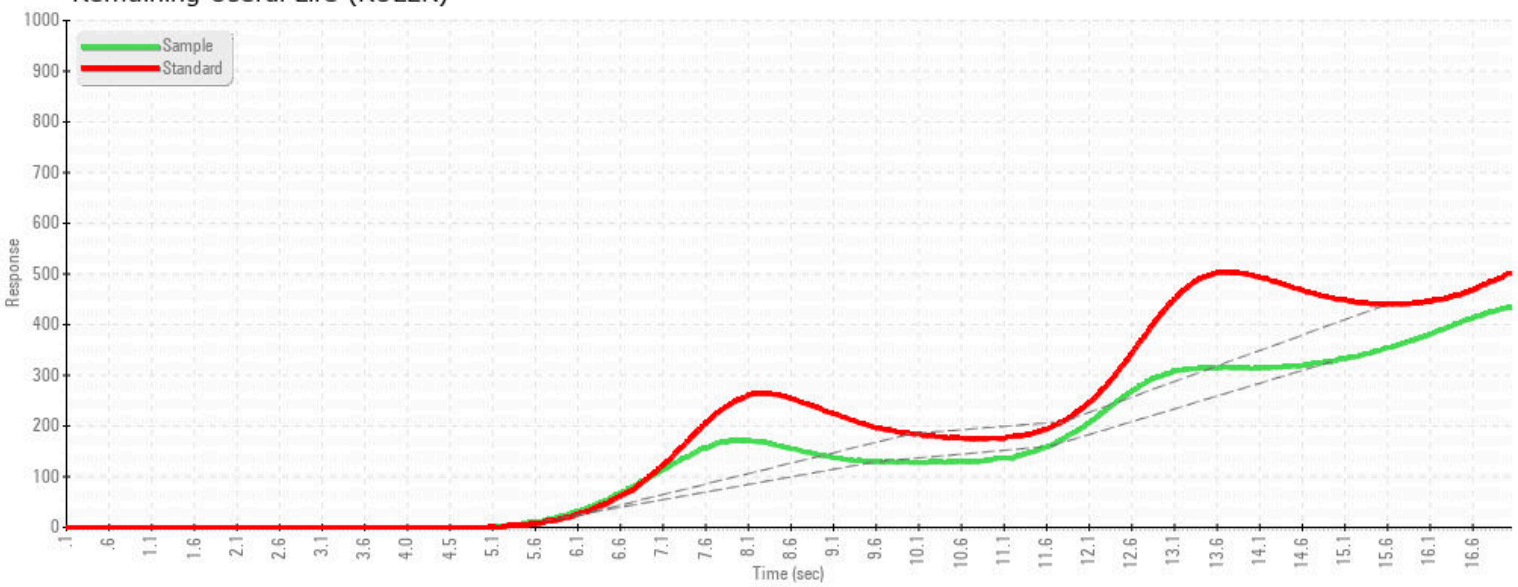
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : 02369828
Unique Number : 5085275
Test Package : AOM 1
Recieved : 11 Aug 2020
Diagnosed : 18 Aug 2020
Diagnostician : Bill Quesnel

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.

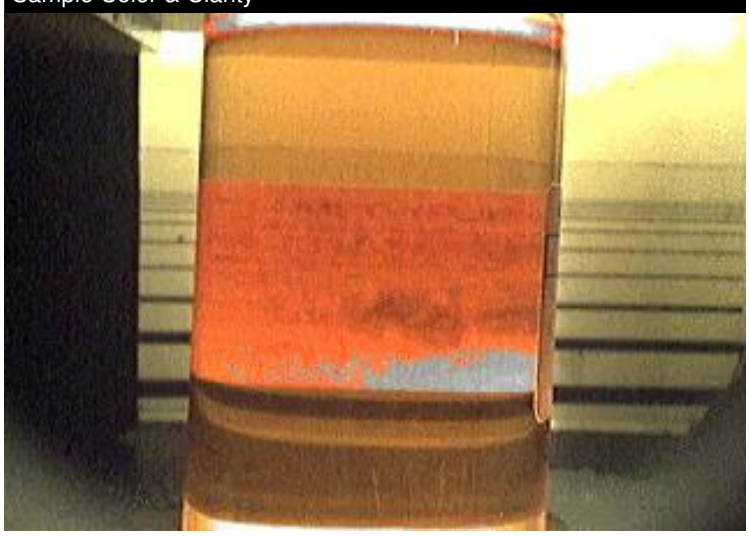
Suncor - Terra Nova Projects
Scotia Centre, 235 Water Strret
St. John`s, NL
CA A1C 1B6
Contact: Josh Hynes
joshynes@suncor.com
T: (709)778-3575
F: (709)724-2835

Remaining Useful Life (RULER)



MPC (Varnish Test)

Sample Color & Clarity



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