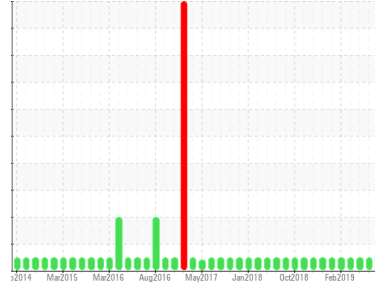


Area
Main Power Generation [71126690]
Machine Id
Generator - MPG (Port) Lube Oil System (S/N Sample Tag XX-80201-S1)
Component
Turbine
Fluid
PETRO CANADA TURBOFLO 32 (8300 LTR)



DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use.

Wear
All component wear rates are normal.

Contamination
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service (unconfirmed).

SAMPLE INFORMATION method limit/base current history1 history2

Sample Number	Client Info	PC	PC	PC
Sample Date	Client Info	06 Jul 2019	10 Jun 2019	02 Apr 2019
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION method limit/base current history1 history2

Water	WC Method	>0.03	NEG	NEG	NEG
-------	-----------	-------	------------	-----	-----

WEAR METALS method limit/base current history1 history2

PQ	ASTM D8184*		11	10	18
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	<1	<1
Copper	ppm	ASTM D5185(m) >5	<1	<1	<1
Tin	ppm	ASTM D5185(m) >5	0	0	0
Antimony	ppm	ASTM D5185(m)	0	<1	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

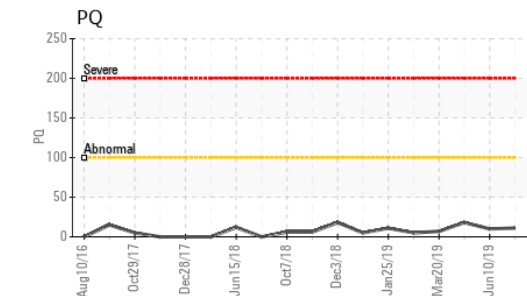
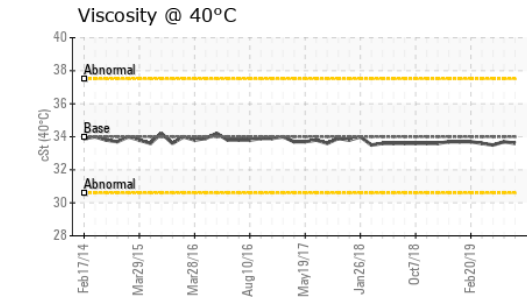
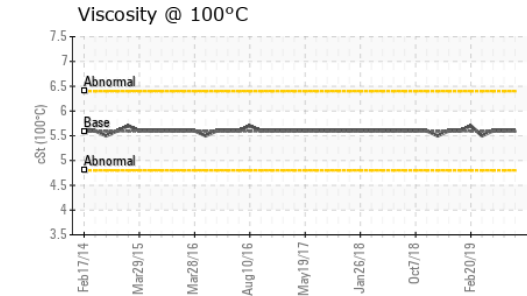
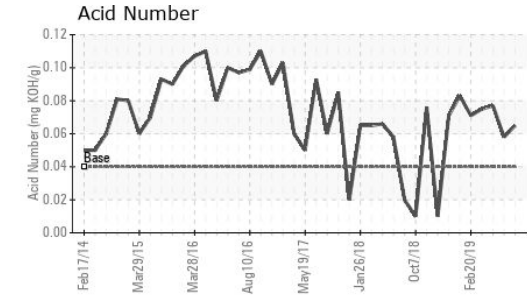
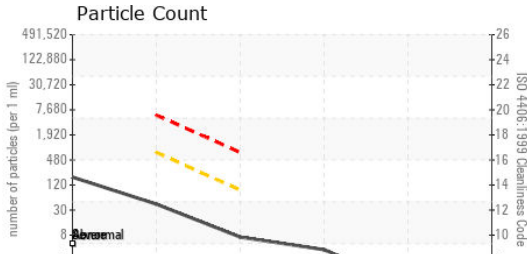
ADDITIVES method limit/base current history1 history2

Boron	ppm	ASTM D5185(m) 0	0	0	<1
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	<1	<1
Calcium	ppm	ASTM D5185(m) 0	<1	<1	<1
Phosphorus	ppm	ASTM D5185(m) 120	249	255	246
Zinc	ppm	ASTM D5185(m) 0.0	<1	1	<1
Sulfur	ppm	ASTM D5185(m) 0	510	522	499
Lithium	ppm	ASTM D5185(m)	0	0	0

CONTAMINANTS method limit/base current history1 history2

Silicon	ppm	ASTM D5185(m) >15	<1	<1	<1
Sodium	ppm	ASTM D5185(m)	0	0	0
Potassium	ppm	ASTM D5185(m) >20	<1	0	0

OIL ANALYSIS REPORT



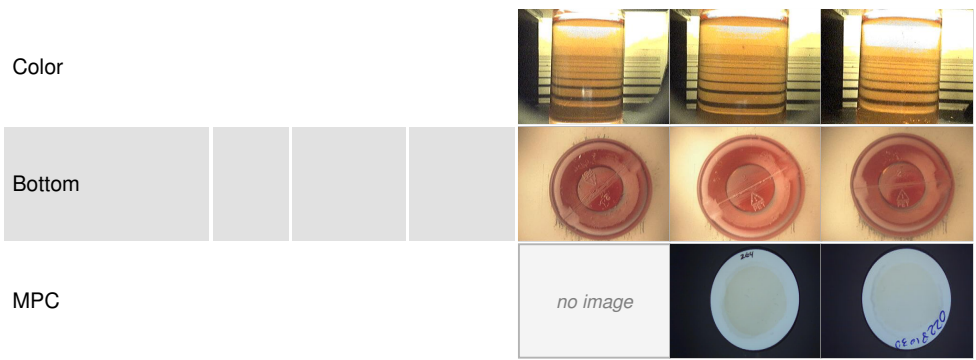
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647			164	1529	3411
Particles >6µm	ASTM D7647	>640		37	275	640
Particles >14µm	ASTM D7647	>80		6	16	35
Particles >21µm	ASTM D7647	>20		3	7	11
Particles >38µm	ASTM D7647	>4		0	0	0
Particles >71µm	ASTM D7647	>3		0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/16/13		15/12/10	18/15/11	19/16/12

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.04	0.065	0.058	0.077

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	33.7	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
---------------	--	--------	------------	---------	----------	----------



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : **02297968** **Received** : 19 Jul 2019
Unique Number : 4901241 **Diagnosed** : 24 Jul 2019
Test Package : MAR 2 (Additional Tests: KV100, PQ, TAN Man, VI) **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.

Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Street
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
 joshhynes@suncor.com
 T: (709)778-3575
 F: (709)724-2835