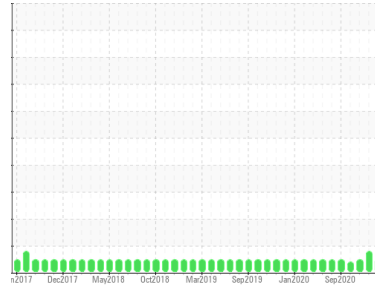


Area
Water Injection
Machine Id
Pump Sea Water Injection (C) - Lube System (S/N Sample Tag PA-29002C-S1)
Component
Pump
Fluid
PETRO CANADA TURBOFLO 46 (1264 LTR)



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 IND 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

Wear
Component wear rates appear to be normal (unconfirmed).

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 suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PC0076262	PC0052029	PC
Sample Date	Client Info	11 Oct 2023	10 Sep 2023	09 May 2022
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	Filtered	N/A
Sample Status		NORMAL	ATTENTION	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >.1	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184*	0	0	0
Iron	ppm ASTM D5185(m) >75	0	<1	0
Chromium	ppm ASTM D5185(m) >5	0	0	0
Nickel	ppm ASTM D5185(m)	0	<1	0
Titanium	ppm ASTM D5185(m)	0	0	0
Silver	ppm ASTM D5185(m)	<1	<1	0
Aluminum	ppm ASTM D5185(m) >5	0	0	0
Lead	ppm ASTM D5185(m) >10	0	0	<1
Copper	ppm ASTM D5185(m) >15	<1	<1	0
Tin	ppm ASTM D5185(m)	0	0	0
Antimony	ppm ASTM D5185(m)	0	0	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

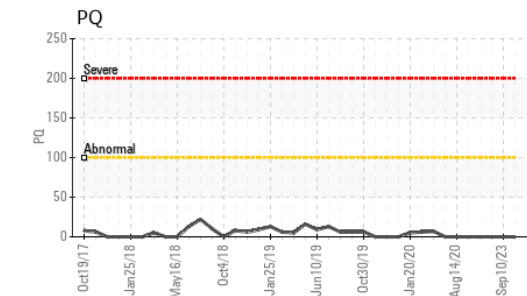
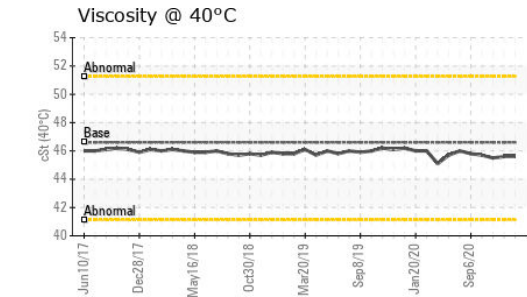
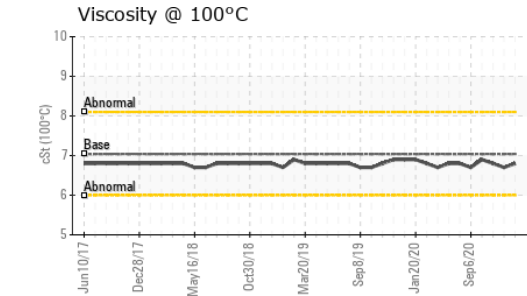
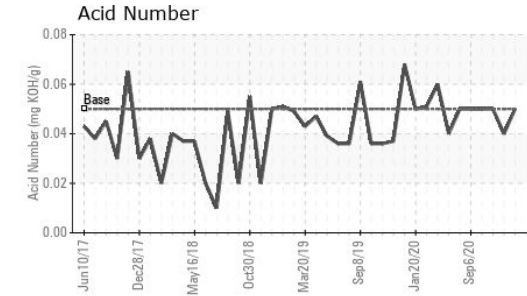
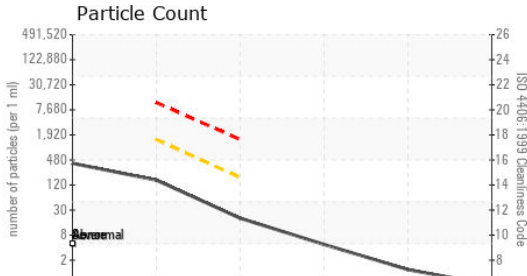
ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 0	<1	0	0
Barium	ppm ASTM D5185(m) 0	<1	0	0
Molybdenum	ppm ASTM D5185(m) 0	0	0	0
Manganese	ppm ASTM D5185(m) 0	0	0	0
Magnesium	ppm ASTM D5185(m) 0	0	0	0
Calcium	ppm ASTM D5185(m) 0	<1	<1	0
Phosphorus	ppm ASTM D5185(m) 110	161	158	161
Zinc	ppm ASTM D5185(m) 0.0	<1	1	2
Sulfur	ppm ASTM D5185(m)	248	246	252
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >20	<1	<1	<1
Sodium	ppm ASTM D5185(m)	<1	<1	0
Potassium	ppm ASTM D5185(m) >20	0	19	<1

OIL ANALYSIS REPORT



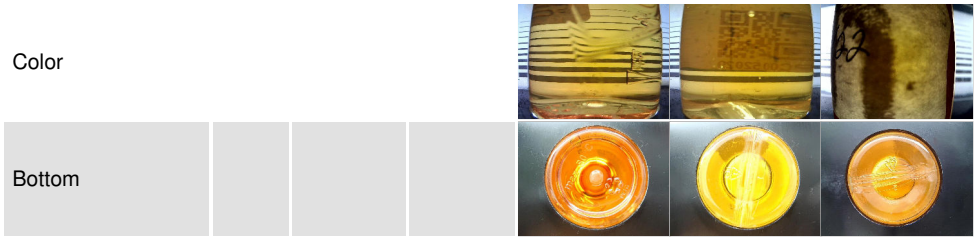
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647			350	13710	90
Particles >6µm	ASTM D7647	>1300		139	▲ 1797	28
Particles >14µm	ASTM D7647	>160		17	31	6
Particles >21µm	ASTM D7647	>40		4	9	2
Particles >38µm	ASTM D7647	>10		1	1	1
Particles >71µm	ASTM D7647	>3		0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14		16/14/11	▲ 21/18/12	14/12/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.05	0.05	0.04	0.05

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*	>.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)	46.6	45.6	45.6	45.5
Visc @ 100°C	cSt	ASTM D7279(m)	7.04	6.8	6.7	6.8
Viscosity Index (VI)	Scale	ASTM D2270*	107	103	98	103

SAMPLE IMAGES



Color

Bottom



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076262
Lab Number : **02598417**
Unique Number : 5683497
Test Package : IND 2 (Additional Tests: KV100, PQ, TAN Man, VI)

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

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.