

WATER



Area

Water Injection

Machine Id
Pump Sea Water Injection (B) - Lube System (S/N Sample Tag PA-29002B-S1)

Component

Pump

Fluid

PETRO CANADA TURBOFLO 46 (1264 LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you follow the water drain-off procedure for this component. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. Free water present. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The white residue present in the sample is oil additive precipitate. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC	PC	PC
Sample Date	Client Info			09 Apr 2024	23 Mar 2024	19 Feb 2024
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				ABNORMAL	ABNORMAL	NORMAL

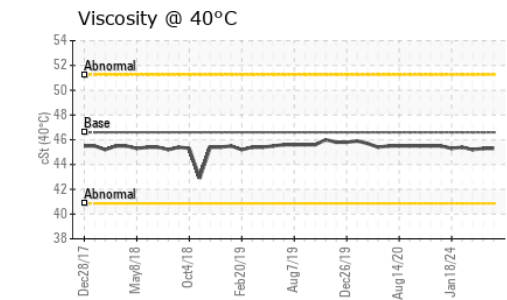
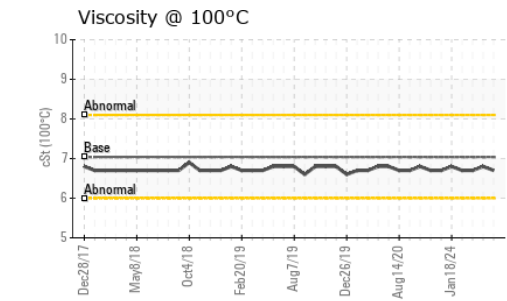
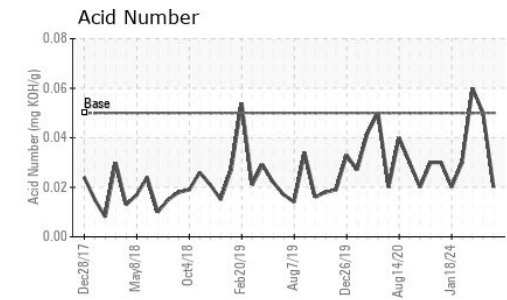
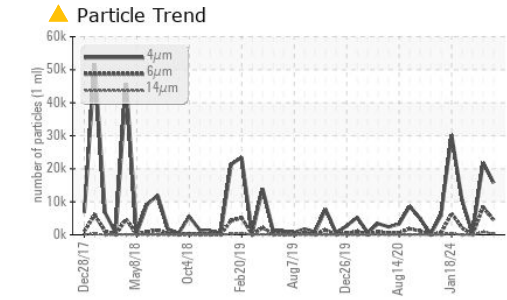
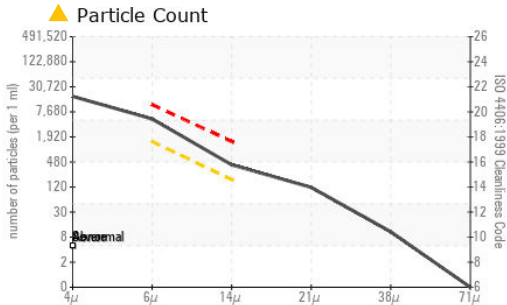
CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>.1	NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>75	<1	0	0
Chromium	ppm	ASTM D5185(m)	>5	0	0	0
Nickel	ppm	ASTM D5185(m)		0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>5	0	0	<1
Lead	ppm	ASTM D5185(m)	>10	0	0	0
Copper	ppm	ASTM D5185(m)	>15	<1	<1	<1
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	0	<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	0
Magnesium	ppm	ASTM D5185(m)	0	2	0	<1
Calcium	ppm	ASTM D5185(m)	0	2	0	<1
Phosphorus	ppm	ASTM D5185(m)	110	174	169	175
Zinc	ppm	ASTM D5185(m)	0.0	3	<1	2
Sulfur	ppm	ASTM D5185(m)		332	319	342
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	3	7	1
Sodium	ppm	ASTM D5185(m)		0	0	0
Potassium	ppm	ASTM D5185(m)	>20	0	<1	<1

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : 02631667
Unique Number : 5772820
Test Package : MAR 2 (Additional Tests: Bottom, KV100, PQ, TAN Man, VI)

Received : 26 Apr 2024
Tested : 29 Apr 2024
Diagnosed : 29 Apr 2024 - Kevin Marson

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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.

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		15740	21847	308
Particles >6µm	ASTM D7647	>1300	▲ 4524	▲ 8315	62
Particles >14µm	ASTM D7647	>160	▲ 361	▲ 849	5
Particles >21µm	ASTM D7647	>40	▲ 104	▲ 244	2
Particles >38µm	ASTM D7647	>10	9	● 20	1
Particles >71µm	ASTM D7647	>3	0	1	1
Oil Cleanliness	ISO 4406 (c)	>--/17/14	▲ 21/19/16	▲ 22/20/17	15/13/10

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	0.05	0.02	0.05	0.06

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	▲ LIGHT	NONE	NONE
Silt	scalar Visual*	NONE	NONE	NONE	NONE
Debris	scalar Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar Visual*	NONE	NONE	VLITE	NONE
Appearance	scalar Visual*	NORML	NORML	NORML	NORML
Odor	scalar Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar Visual*	>.1	.5%	NEG	NEG
Free Water	scalar Visual*		▲ 1%	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	46.6	45.3	45.3	45.2
Visc @ 100°C	cSt ASTM D7279(m)	7.04	6.7	6.8	6.7
Viscosity Index (VI)	Scale ASTM D2270*	107	100	104	100

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					