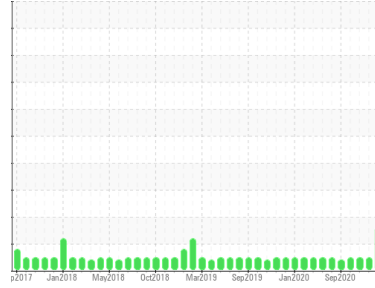


Area
Water Injection [450248672]
Machine Id
Pump Sea Water Injection (B) - Lube System (S/N Sample Tag PA-29002B-S1)
Component
Pump
Fluid
PETRO CANADA TURBOFLO 46 (1264 LTR)



DIAGNOSIS

Recommendation

We advise that you 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. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

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			PC0076326	PC0076260	PC
Sample Date	Client Info			18 Jan 2024	11 Oct 2023	10 May 2022
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	NORMAL	NORMAL

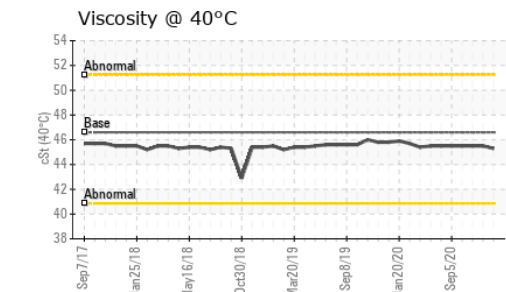
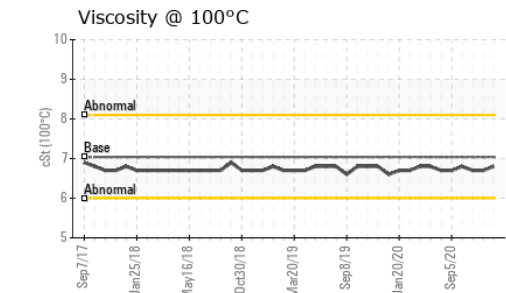
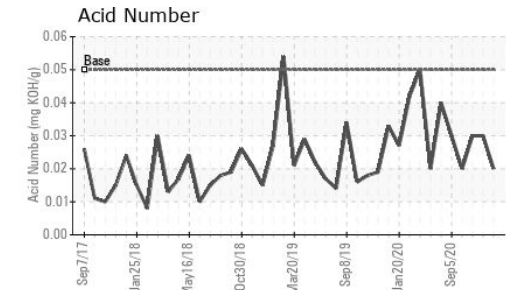
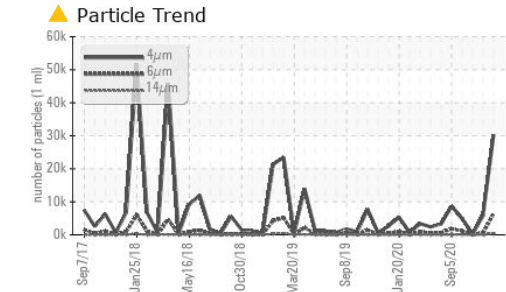
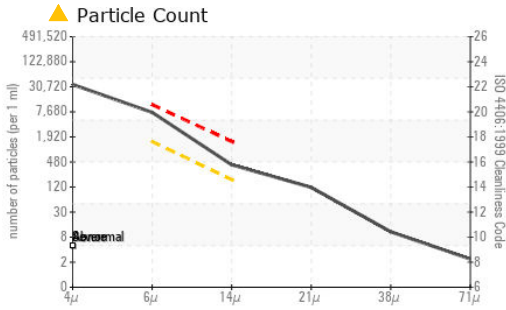
CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>.1	NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>75	<1	<1	0
Chromium	ppm	ASTM D5185(m)	>5	0	0	0
Nickel	ppm	ASTM D5185(m)		<1	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>5	<1	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	<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	0	<1	0
Barium	ppm	ASTM D5185(m)	0	0	<1	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	<1
Calcium	ppm	ASTM D5185(m)	0	<1	<1	0
Phosphorus	ppm	ASTM D5185(m)	110	171	173	170
Zinc	ppm	ASTM D5185(m)	0.0	<1	<1	<1
Sulfur	ppm	ASTM D5185(m)		337	325	329
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)		0	<1	0
Potassium	ppm	ASTM D5185(m)	>20	<1	0	<1

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076326 **Received** : 09 Feb 2024
Lab Number : 02614503 **Tested** : 12 Feb 2024
Unique Number : 5723598 **Diagnosed** : 12 Feb 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, PQ, TAN Man, VI)

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.

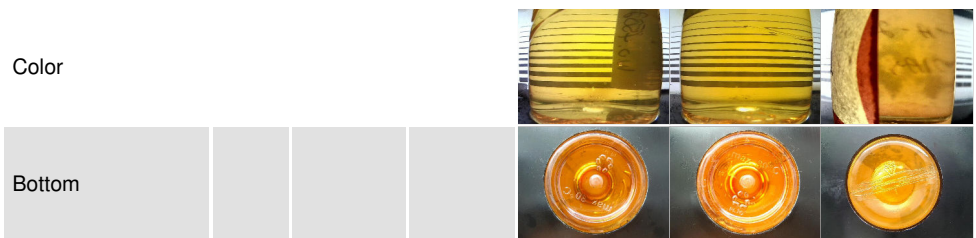
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		30298	5901	171
Particles >6µm	ASTM D7647	>1300	▲ 6492	574	31
Particles >14µm	ASTM D7647	>160	▲ 362	32	3
Particles >21µm	ASTM D7647	>40	▲ 104	7	1
Particles >38µm	ASTM D7647	>10	9	0	0
Particles >71µm	ASTM D7647	>3	2	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14	▲ 22/20/16	20/16/12	15/12/9

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	0.05	0.02	0.03	0.03

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	VLITE	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	45.3	45.5	45.5
Visc @ 100°C	cSt ASTM D7279(m)	7.04	6.8	6.7	6.7
Viscosity Index (VI)	Scale ASTM D2270*	107	104	99	99

SAMPLE IMAGES



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