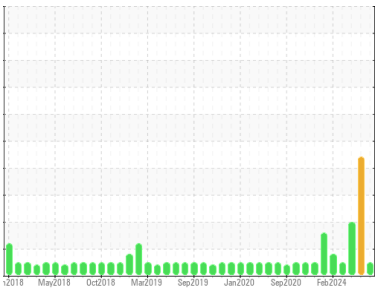
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
Water Injection [450328022]
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
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 MAR 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		**PC**	PC	PC
Sample Date		Client Info		**28 Apr 2024**	09 Apr 2024	23 Mar 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				**NORMAL**	ABNORMAL	ABNORMAL

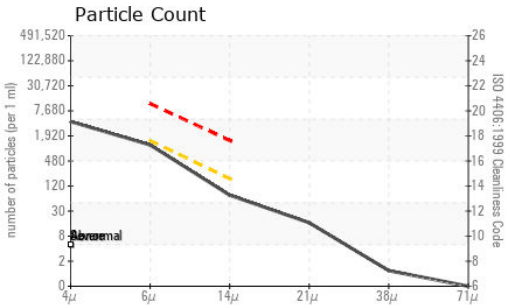
CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>.1	**NEG**	NEG	NEG

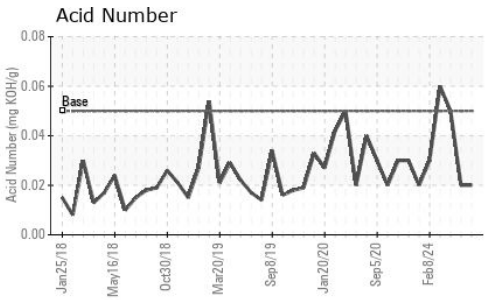
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>75	**0**	<1	0
Chromium	ppm	ASTM D5185(m)	>5	**0**	0	0
Nickel	ppm	ASTM D5185(m)		**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>5	**0**	0	0
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

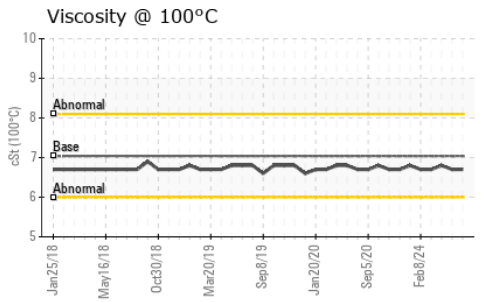
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**<1**	0	<1
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)	0	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	0	**<1**	2	0
Calcium	ppm	ASTM D5185(m)	0	**0**	2	0
Phosphorus	ppm	ASTM D5185(m)	110	**171**	174	169
Zinc	ppm	ASTM D5185(m)	0.0	**<1**	3	<1
Sulfur	ppm	ASTM D5185(m)		**413**	332	319
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

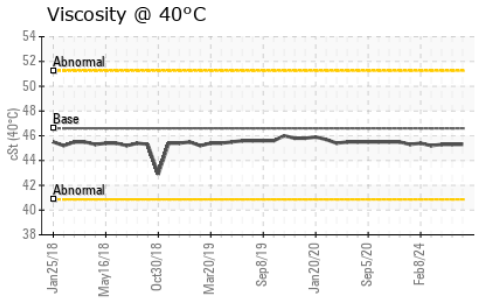
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**<1**	3	7
Sodium	ppm	ASTM D5185(m)		**0**	0	0
Potassium	ppm	ASTM D5185(m)	>20	**<1**	0	<1

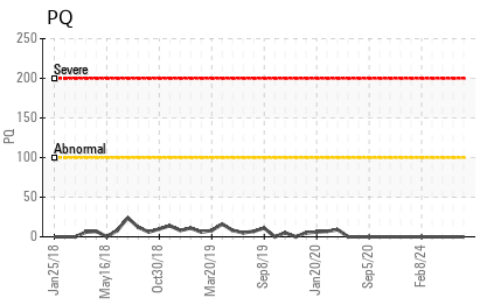
OIL ANALYSIS REPORT









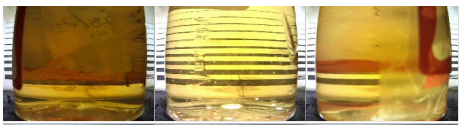


FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**3708**	15740	21847
Particles >6µm		ASTM D7647	>1300	**1021**	▲ 4524	▲ 8315
Particles >14µm		ASTM D7647	>160	**64**	▲ 361	▲ 849
Particles >21µm		ASTM D7647	>40	**14**	▲ 104	▲ 244
Particles >38µm		ASTM D7647	>10	**1**	9	● 20
Particles >71µm		ASTM D7647	>3	**0**	0	1
Oil Cleanliness		ISO 4406 (c)	>--/17/14	**19/17/13**	▲ 21/19/16	▲ 22/20/17

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.05	**0.02**	0.02	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	**VLITE**	▲ LIGHT	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>.1	**NEG**	.5%	NEG
Free Water	scalar	Visual*		**NEG**	▲ 1%	NEG

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

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
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ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : 02636167
Unique Number : 5785329
Test Package : MAR 2 (Additional Tests: KV100, PQ, TAN Man, VI)
Received : 16 May 2024
Tested : 21 May 2024
Diagnosed : 21 May 2024 - 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.

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