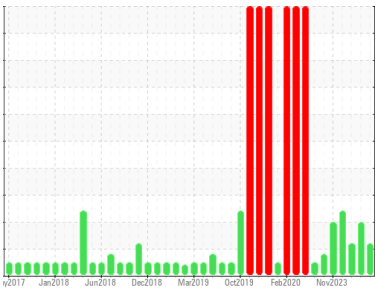
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
Fwd Machinery Space [450270725]
Machine Id
Thruster Fwd Aft - Seal Oil System (S/N Sample Tag CL-06004-S3)
Component
Sealing System
Fluid
PETRO CANADA ENERGOL GR-XP ISO 150 (65 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the fluid.

Fluid Condition

The AN level is acceptable for this fluid. The fluid 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**	PC0080540	PC
Sample Date		Client Info		**26 Feb 2024**	29 Jan 2024	05 Jan 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	ABNORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>100	**<1**	<1	<1
Chromium	ppm	ASTM D5185(m)	>3	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>8	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	2
Aluminum	ppm	ASTM D5185(m)	>3	**<1**	<1	<1
Lead	ppm	ASTM D5185(m)		**0**	0	0
Copper	ppm	ASTM D5185(m)	>3	**<1**	0	<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)		**16**	16	14
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**<1**	<1	<1
Calcium	ppm	ASTM D5185(m)		**9**	11	15
Phosphorus	ppm	ASTM D5185(m)		**173**	169	170
Zinc	ppm	ASTM D5185(m)		**5**	4	6
Sulfur	ppm	ASTM D5185(m)		**9092**	9098	9522
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**3**	3	3
Sodium	ppm	ASTM D5185(m)		**<1**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

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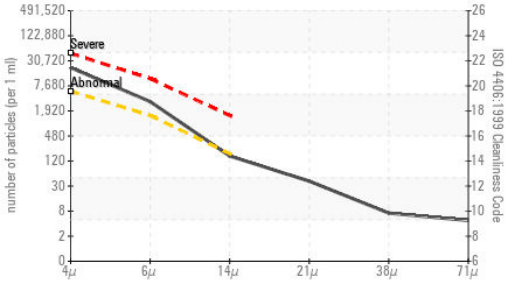
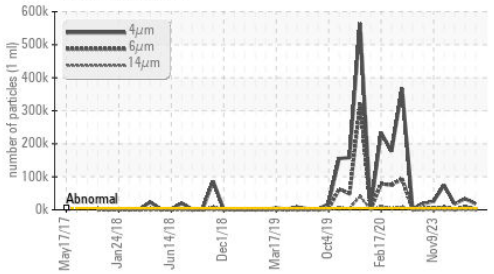
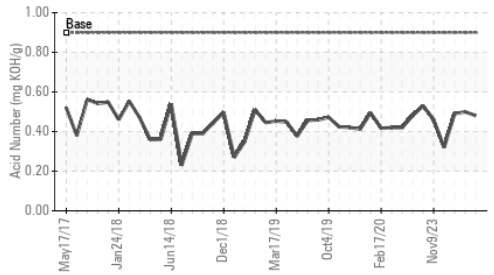
Particle Count



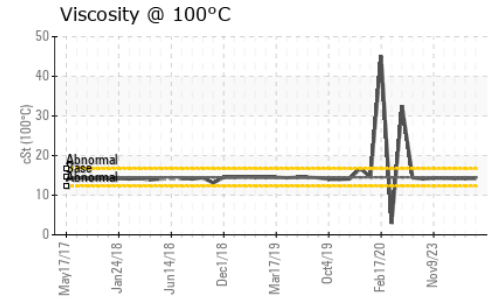
Particle Trend



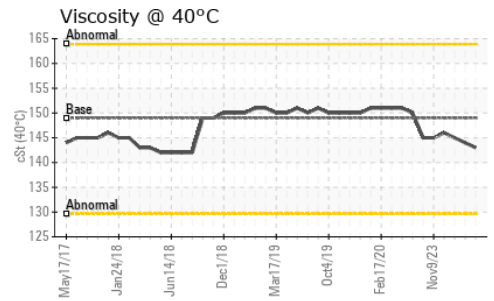
Acid Number



Viscosity @ 100°C



Viscosity @ 40°C



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **18254**	▲ 33662	▲ 17971
Particles >6µm		ASTM D7647	>1300	▲ **2806**	▲ 8368	● 1822
Particles >14µm		ASTM D7647	>160	**140**	▲ 472	50
Particles >21µm		ASTM D7647	>40	**35**	▲ 107	8
Particles >38µm		ASTM D7647	>10	**6**	6	1
Particles >71µm		ASTM D7647	>3	**4**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/19/14**	▲ 22/20/16	▲ 21/18/13

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	**0.48**	0.50	0.49

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*		**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)	149	**143**	144	145
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	**14.2**	14.2	14.2
Viscosity Index (VI)	Scale	ASTM D2270*		**96**	95	94

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : 02622803
Unique Number : 5747922
Test Package : MAR 2 (Additional Tests: KV100, PQ, PrtCount, TAN Man, VI)
Received : 18 Mar 2024
Tested : 19 Mar 2024
Diagnosed : 19 Mar 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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