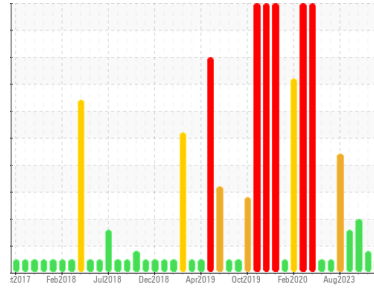


Area
Fwd Machinery Space [450270725]
 Machine Id
Thruster Fwd Aft - Seal Oil System (S/N Sample Tag CL-06005-S3)
 Component
Sealing System
 Fluid
PETRO CANADA ENERGOL GR-XP ISO 150 (65 LTR)



DIAGNOSIS

Recommendation
 Resample at the next service interval to monitor.

Wear
 All component wear rates are normal.

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 fluid is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 history2

Sample Number	Client Info	PC	PC0080538	PC0076461
Sample Date	Client Info	26 Feb 2024	29 Jan 2024	09 Nov 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	ATTENTION	ABNORMAL

CONTAMINATION method limit/base current history1 history2

Water	WC Method	NEG	NEG	NEG
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WEAR METALS method limit/base current history1 history2

PQ	ASTM D8184*	0	0	0
Iron	ppm ASTM D5185(m) >100	1	1	2
Chromium	ppm ASTM D5185(m) >3	0	0	0
Nickel	ppm ASTM D5185(m) >8	<1	0	0
Titanium	ppm ASTM D5185(m)	0	0	0
Silver	ppm ASTM D5185(m)	0	0	<1
Aluminum	ppm ASTM D5185(m) >3	<1	<1	0
Lead	ppm ASTM D5185(m)	0	0	0
Copper	ppm ASTM D5185(m) >3	<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

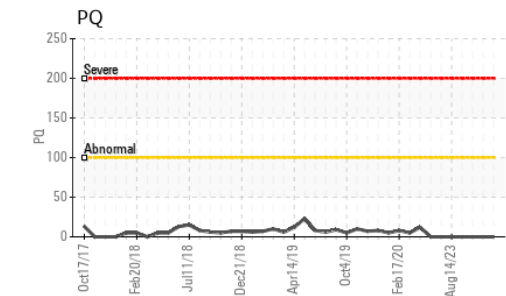
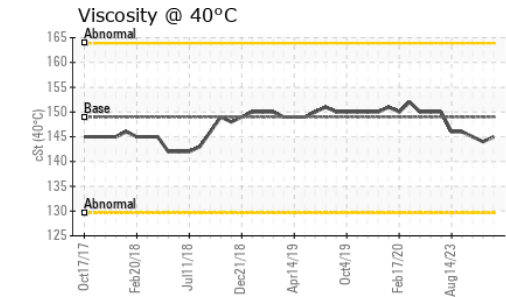
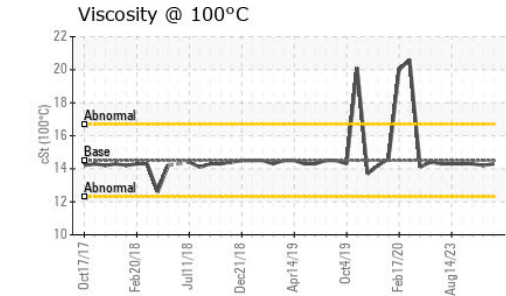
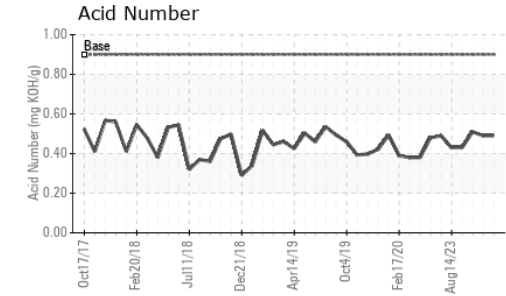
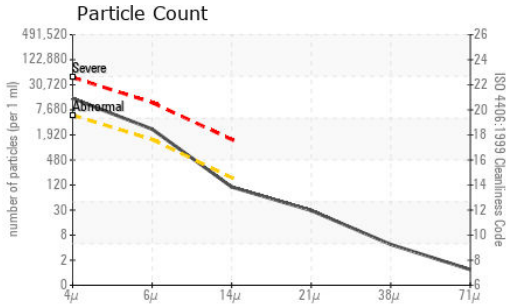
ADDITIVES method limit/base current history1 history2

Boron	ppm ASTM D5185(m)	14	14	12
Barium	ppm ASTM D5185(m)	0	0	<1
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)	12	4	6
Phosphorus	ppm ASTM D5185(m)	174	171	169
Zinc	ppm ASTM D5185(m)	5	4	5
Sulfur	ppm ASTM D5185(m)	10126	10557	10919
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS method limit/base current history1 history2

Silicon	ppm ASTM D5185(m) >25	4	4	5
Sodium	ppm ASTM D5185(m)	2	2	2
Potassium	ppm ASTM D5185(m) >20	<1	<1	0

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC **Received** : 18 Mar 2024
Lab Number : **02622837** **Tested** : 19 Mar 2024
Unique Number : 5747956 **Diagnosed** : 19 Mar 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, PQ, PrtCount, 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	>5000	12555	34729	▲ 35769	
Particles >6µm	ASTM D7647	>1300	2309	7213	▲ 8833	
Particles >14µm	ASTM D7647	>160	95	● 256	▲ 512	
Particles >21µm	ASTM D7647	>40	26	40	▲ 134	
Particles >38µm	ASTM D7647	>10	4	1	13	
Particles >71µm	ASTM D7647	>3	1	0	3	
Oil Cleanliness	ISO 4406 (c)	>19/17/14	21/18/14	● 22/20/15	▲ 22/20/16	

FLUID DEGRADATION						
	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	0.49	0.49	0.51

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	VLITE	VLITE
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	.2%	NEG	NEG
Free Water	scalar	Visual*	NEG	NEG	NEG	NEG

FLUID PROPERTIES						
	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	149	145	144	145
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	14.3	14.2	14.3
Viscosity Index (VI)	Scale	ASTM D2270*		95	95	95

SAMPLE IMAGES						
	method	limit/base	current	history1	history2	
Color						
Bottom						