



Area

Fwd Machinery Space

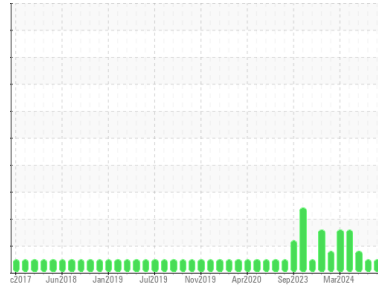
Machine Id
Thruster Fwd Fore - Lubrication System (S/N Sample Tag CL-06005-S1)

Component

Lube System

Fluid

PETRO CANADA ENERGOL GR-XP ISO 150 (5000 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 IND 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 water content is negligible. 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	PC0080174	PC0080052	PC
Sample Date	Client Info	19 Jun 2024	28 May 2024	21 May 2024
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	NORMAL	ATTENTION

WEAR METALS method limit/base current history1 history2

PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>20	<1	<1
Chromium	ppm	ASTM D5185(m)	>10	0	0
Nickel	ppm	ASTM D5185(m)	>10	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0
Silver	ppm	ASTM D5185(m)		0	0
Aluminum	ppm	ASTM D5185(m)	>10	<1	<1
Lead	ppm	ASTM D5185(m)	>20	0	0
Copper	ppm	ASTM D5185(m)	>20	<1	<1
Tin	ppm	ASTM D5185(m)	>10	0	0
Antimony	ppm	ASTM D5185(m)		0	<1
Vanadium	ppm	ASTM D5185(m)		0	0
Beryllium	ppm	ASTM D5185(m)		0	0
Cadmium	ppm	ASTM D5185(m)		0	0

ADDITIVES method limit/base current history1 history2

Boron	ppm	ASTM D5185(m)		7	8	8
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	0	<1
Calcium	ppm	ASTM D5185(m)		4	4	4
Phosphorus	ppm	ASTM D5185(m)		164	169	180
Zinc	ppm	ASTM D5185(m)		5	4	5
Sulfur	ppm	ASTM D5185(m)		11023	11099	11644
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS method limit/base current history1 history2

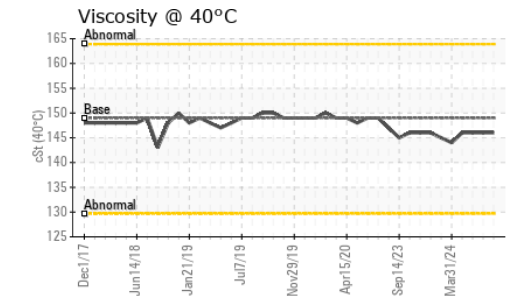
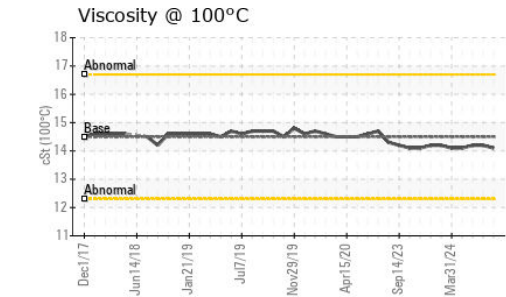
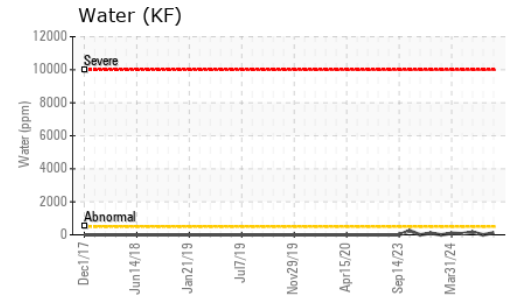
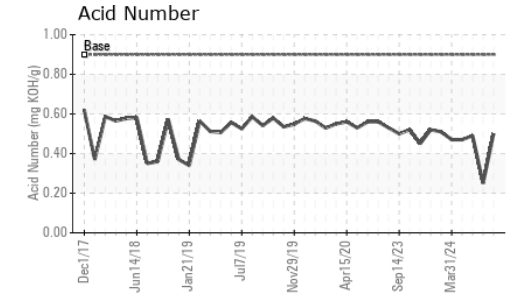
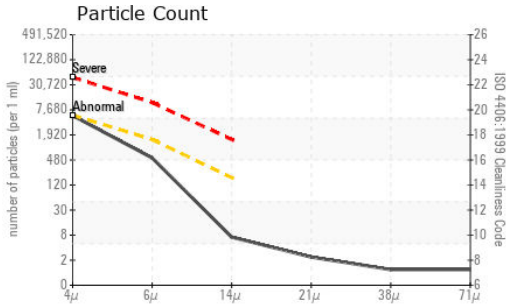
Silicon	ppm	ASTM D5185(m)	>15	<1	1	0
Sodium	ppm	ASTM D5185(m)		0	0	0
Potassium	ppm	ASTM D5185(m)	>20	0	<1	<1
Water	%	ASTM D6304*	>0.05	0.012	---	0.016
ppm Water	ppm	ASTM D6304*	>500	123	---	162

FLUID CLEANLINESS method limit/base current history1 history2

Particles >4µm	ASTM D7647	>5000	4898	3904	6926
Particles >6µm	ASTM D7647	>1300	472	353	839
Particles >14µm	ASTM D7647	>160	6	7	9
Particles >21µm	ASTM D7647	>40	2	2	3
Particles >38µm	ASTM D7647	>10	1	1	0
Particles >71µm	ASTM D7647	>3	1	1	0

Oil Cleanliness	ISO 4406 (c)	>19/17/14	19/16/10	19/16/10	20/17/10
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OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080174
Lab Number : 02645043
Unique Number : 5802582
Test Package : IND 2 (Additional Tests: KF, KV100, PQ, TAN Man, VI)

Received : 02 Jul 2024
Tested : 04 Jul 2024
Diagnosed : 04 Jul 2024 - Kevin Marson


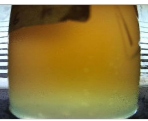
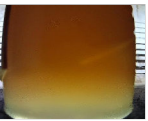
Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Street
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
 joshynes@suncor.com
 T: (709)778-3575
 F: (709)724-2835

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 DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	0.50	0.25	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	WGOIL	NORML	HAZY
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	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	146	146	146
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	14.1	14.2	14.2
Viscosity Index (VI)	Scale	ASTM D2270*		92	94	94

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom				