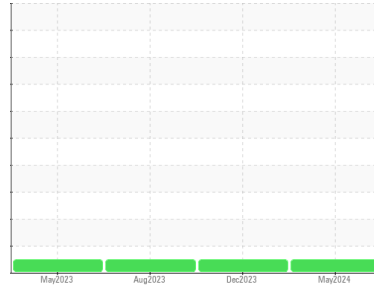


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
PROPULSION EQUIPMENT
Machine Id
MAN PROPELLER CPP HPU (CAL011) (S/N CALVERT11)
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 100 (600 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 oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0080230	PC0076328	PC0010704
Sample Date	Client Info			17 May 2024	29 Dec 2023	09 Aug 2023
Machine Age	hrs	Client Info		24544	21847	20530
Oil Age	hrs	Client Info		24544	21847	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.05	NEG	NEG	NEG

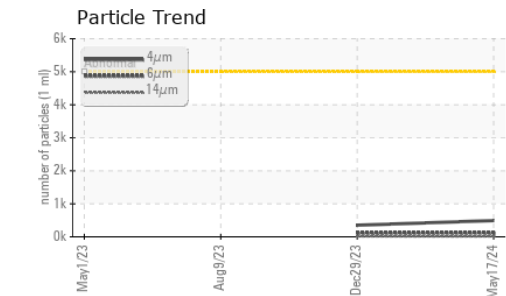
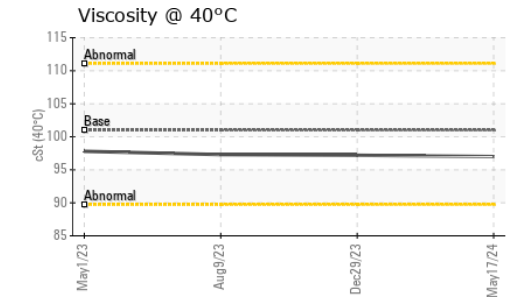
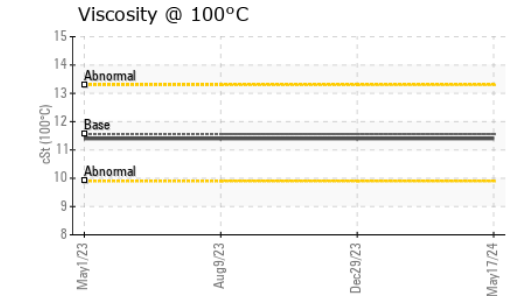
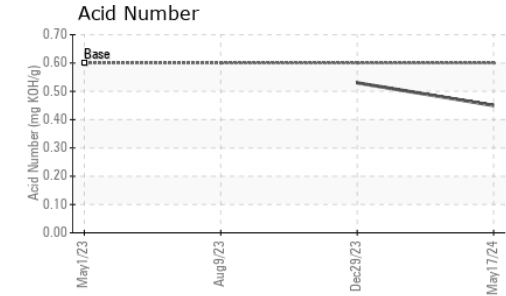
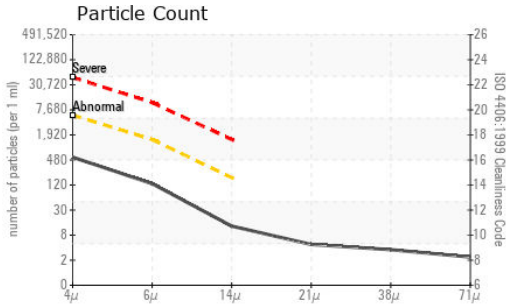
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<1	<1	<1
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>10	0	<1	<1
Lead	ppm	ASTM D5185(m)	>20	0	0	<1
Copper	ppm	ASTM D5185(m)	>20	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>10	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	<1
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	<1	<1
Calcium	ppm	ASTM D5185(m)	50	67	68	71
Phosphorus	ppm	ASTM D5185(m)	330	362	361	364
Zinc	ppm	ASTM D5185(m)	430	466	461	489
Sulfur	ppm	ASTM D5185(m)	760	1363	1479	1457
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	0	1	1
Sodium	ppm	ASTM D5185(m)		<1	0	0
Potassium	ppm	ASTM D5185(m)	>20	0	<1	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	493	351	---
Particles >6µm		ASTM D7647	>1300	114	107	---
Particles >14µm		ASTM D7647	>160	11	12	---
Particles >21µm		ASTM D7647	>40	4	3	---
Particles >38µm		ASTM D7647	>10	3	1	---
Particles >71µm		ASTM D7647	>3	2	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	16/14/11	16/14/11	---

OIL ANALYSIS REPORT

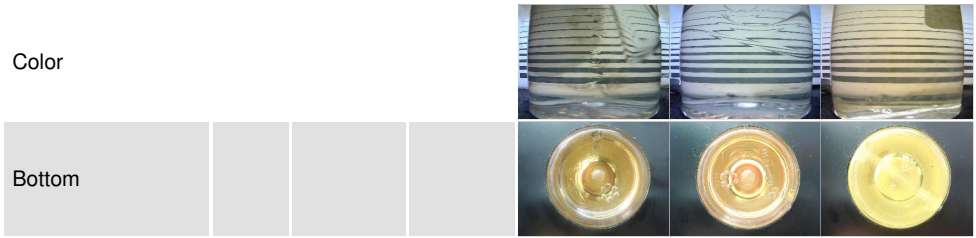


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	0.45	0.53	---

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*	>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)	101	97.0	97.2	97.3
Visc @ 100°C	cSt	ASTM D7279(m)	11.56	11.4	11.4	11.4
Viscosity Index (VI)	Scale	ASTM D2270*	102	104	104	103

SAMPLE IMAGES



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080230
Lab Number : **02638007**
Unique Number : 5787169
Test Package : IND 2 (Additional Tests: KV100, VI)

Ocean Choice International - MV Calvert
 1315 Topsail Rd, P.O. Box 8190
 St. John's, NL
 CA A1B 3N4

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.

Contact: Calvert Engine Control Room
 calvertengine@oceanchoice.com
 T:
 F: