



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
HBR
 Component
Starboard Reduction Gear
 Fluid
PETRO CANADA DURON MARINE SAE 40 (7 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC05745358	MW05718519	MW05685233
Sample Date		Client Info		22 Jan 2023	14 Dec 2022	03 Nov 2022
Machine Age	hrs	Client Info		22657	22067	21536
Oil Age	hrs	Client Info		590	1131	586
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	3	2	3
Chromium	ppm	ASTM D5185m	>10	<1	<1	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	1	1	<1
Lead	ppm	ASTM D5185m	>100	<1	0	<1
Copper	ppm	ASTM D5185m	>50	<1	<1	<1
Tin	ppm	ASTM D5185m	>10	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

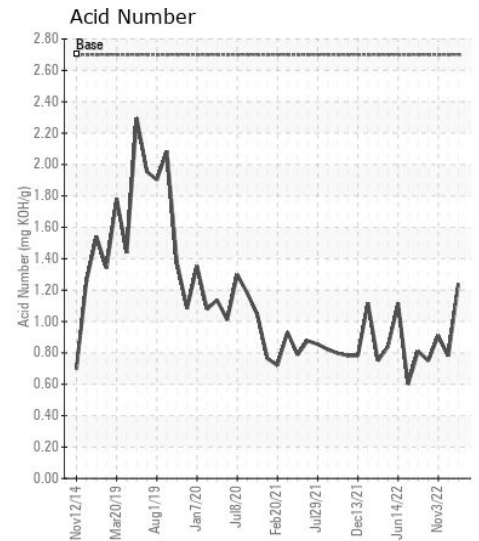
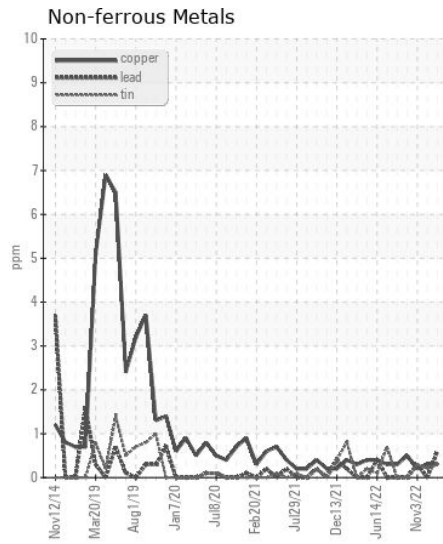
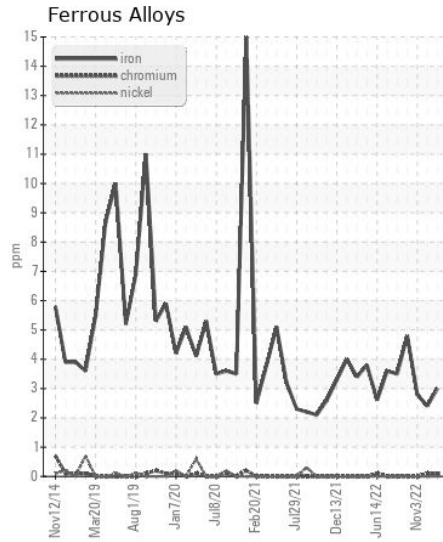
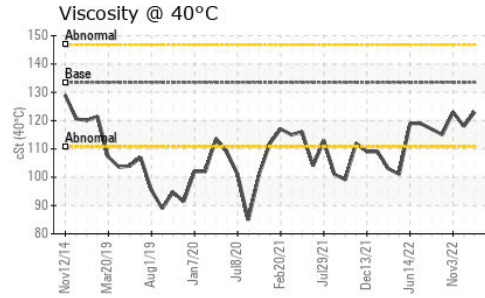
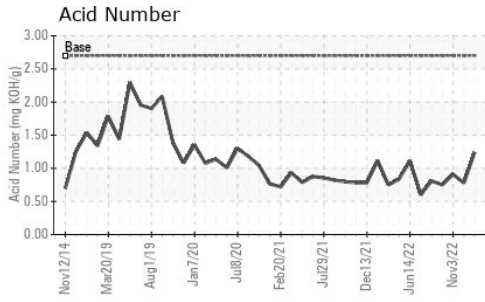
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	6	4	4
Potassium	ppm	ASTM D5185m	>20	<1	0	0
Water		WC Method	>0.1	NEG	NEG	NEG
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	>0.1	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	1	2
Boron	ppm	ASTM D5185m	1.0	403	316	338
Barium	ppm	ASTM D5185m	1.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.0	45	41	38
Manganese	ppm	ASTM D5185m	1	<1	<1	<1
Magnesium	ppm	ASTM D5185m	15	52	82	59
Calcium	ppm	ASTM D5185m	2540	3185	2249	2432
Phosphorus	ppm	ASTM D5185m	1000	930	669	702
Zinc	ppm	ASTM D5185m	1110	1080	738	797
Sulfur	ppm	ASTM D5185m	3700	4362	2998	3326
Acid Number (AN)	mg KOH/g	ASTM D8045	2.7	1.24	0.78	0.91
Visc @ 40°C	cSt	ASTM D445	133.5	123	118	123



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC05745358
Lab Number : 05745358
Unique Number : 10299957
Test Package : MAR 2
Received : 20 Jan 2023
Tested : 23 Jan 2023
Diagnosed : 24 Jan 2023 - Don Baldrige

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To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)