



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
ENDEAVOR
 Component
Port Main Engine
 Fluid
TITAN 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0834573	WC0834575	WC0847402
Sample Date		Client Info		26 Apr 2024	26 Apr 2024	21 Oct 2023
Machine Age	hrs	Client Info		15478	16913	15808
Oil Age	hrs	Client Info		72	93	435
Filter Age	hrs	Client Info		72	93	435
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	2	3	4
Chromium	ppm	ASTM D5185m	>8	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	<1	<1	3
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	<1	1
Lead	ppm	ASTM D5185m	>18	<1	<1	0
Copper	ppm	ASTM D5185m	>80	1	0	<1
Tin	ppm	ASTM D5185m	>14	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

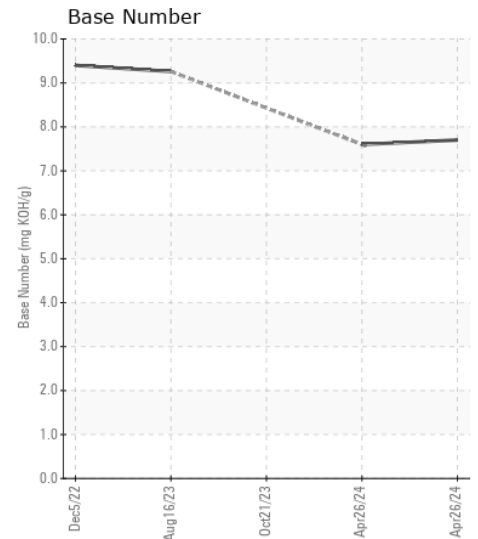
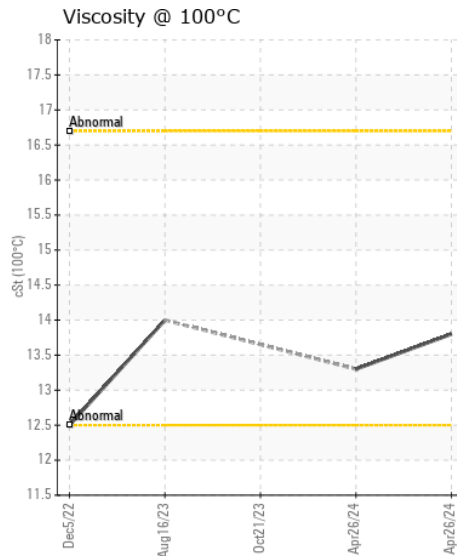
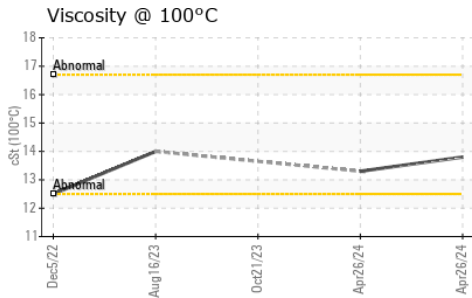
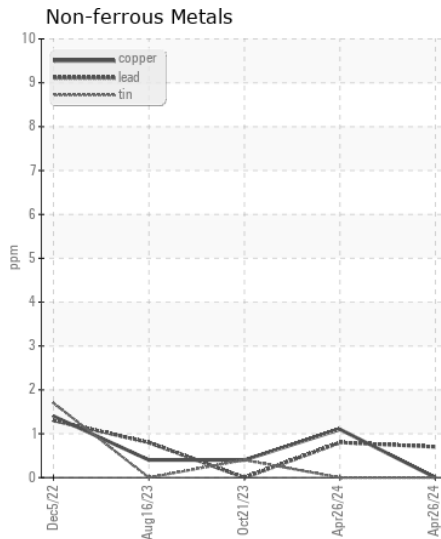
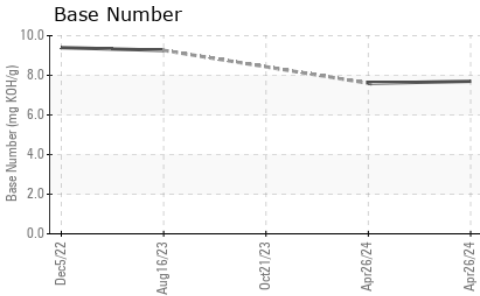
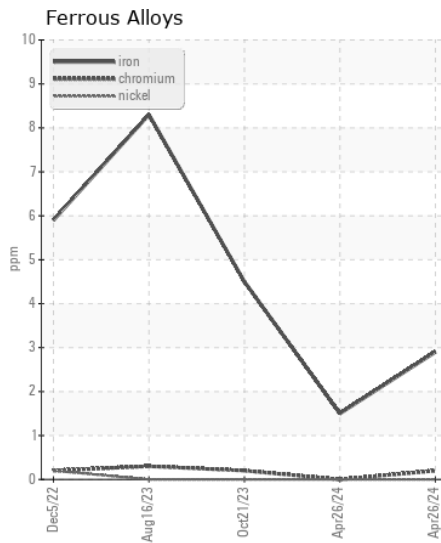
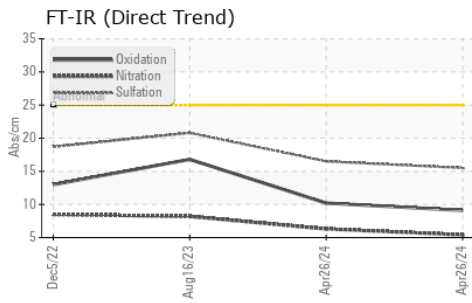
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	4	5
Potassium	ppm	ASTM D5185m	>20	2	2	3
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0	---
Nitration	Abs/cm	*ASTM D7624	>20	5.4	6.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.5	16.5	---
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<1	<1	1
Boron	ppm	ASTM D5185m		16	19	78
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		5	6	25
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		48	57	214
Calcium	ppm	ASTM D5185m		2414	2438	2217
Phosphorus	ppm	ASTM D5185m		969	968	1045
Zinc	ppm	ASTM D5185m		1144	1154	1294
Sulfur	ppm	ASTM D5185m		4527	4499	3921
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.1	10.2	---
Base Number (BN)	mg KOH/g	ASTM D2896		7.7	7.6	---
Visc @ 100°C	cSt	ASTM D445		13.8	13.3	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0834573
Lab Number : 06176945
Unique Number : 11022998
Test Package : MAR 2

Received : 13 May 2024
Tested : 14 May 2024
Diagnosed : 14 May 2024 - Wes Davis

CITY EXPERIENCES - SEAWARD EXPLORER
 2825 5TH AVENUE
 SAN DIEGO, CA
 US 92103
 Contact: PETER CHARBONNET

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)

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F: