



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
STEAM TURBINE
 Component
Gearbox
 Fluid
{not provided} (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR02636020	---	---
Sample Date		Client Info		07 May 2024	---	---
Machine Age	hrs	Client Info		100	---	---
Oil Age	hrs	Client Info		100	---	---
Filter Age	hrs	Client Info		100	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>200	0	---	---
Chromium	ppm	ASTM D5185(m)	>15	0	---	---
Nickel	ppm	ASTM D5185(m)	>15	0	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>25	0	---	---
Lead	ppm	ASTM D5185(m)	>100	0	---	---
Copper	ppm	ASTM D5185(m)	>200	7	---	---
Tin	ppm	ASTM D5185(m)	>25	0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

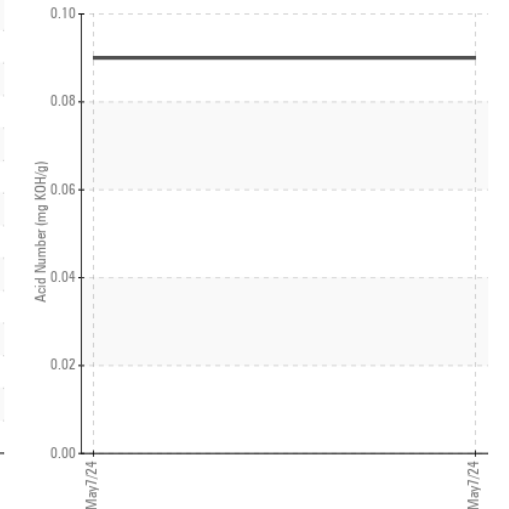
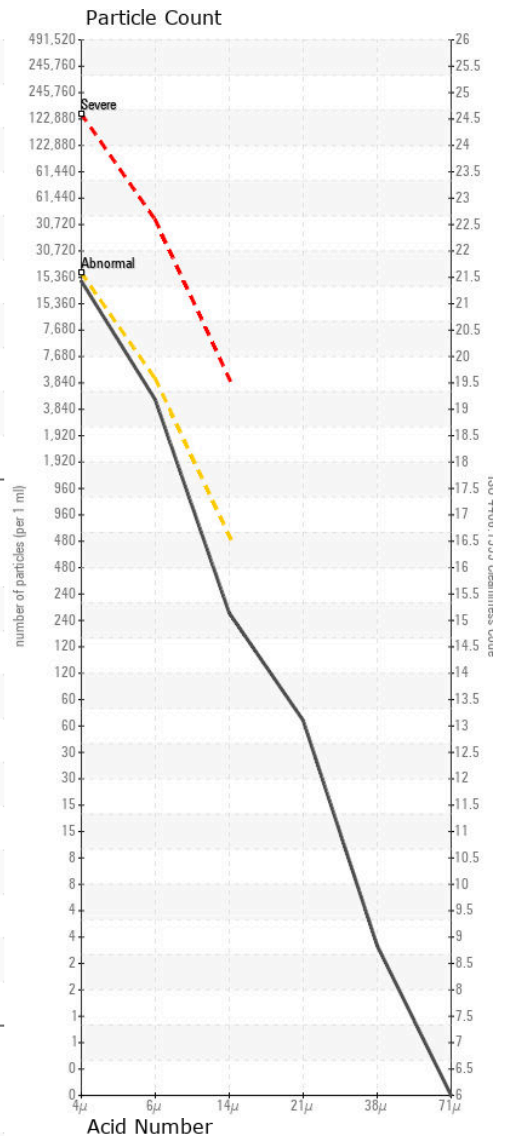
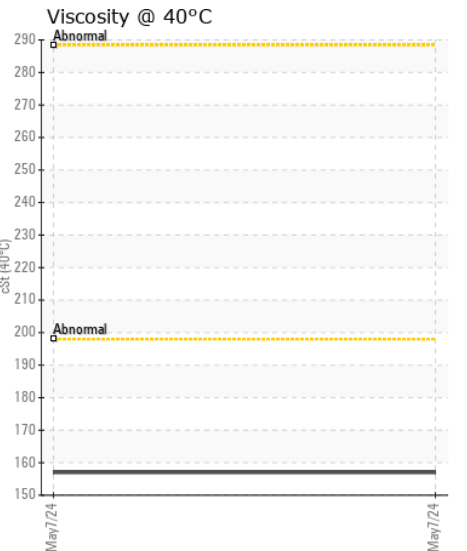
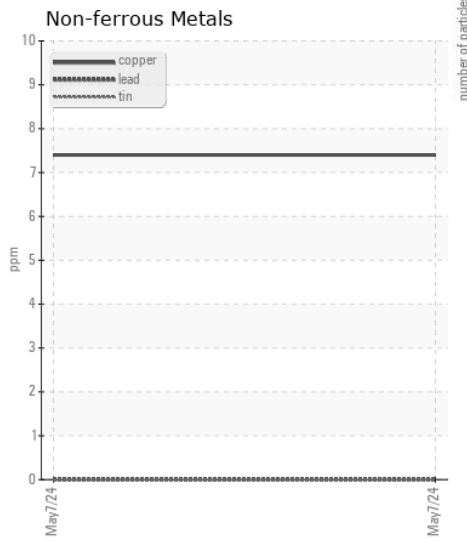
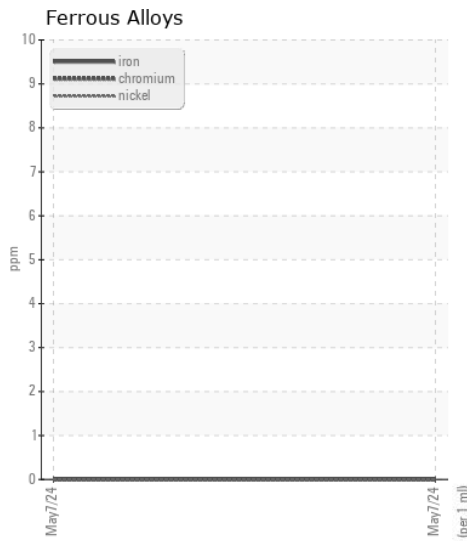
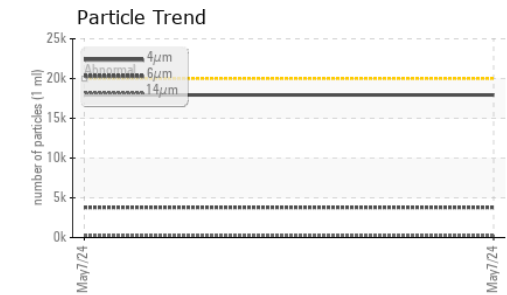
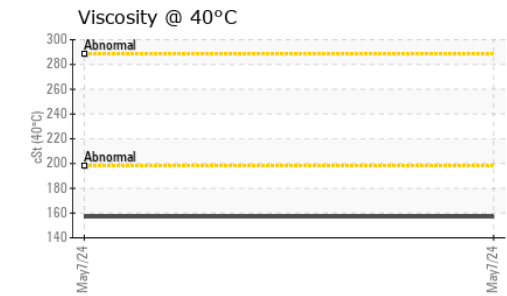
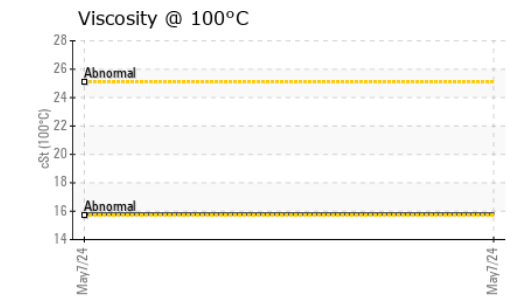
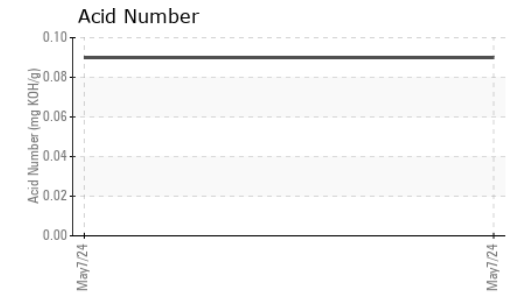
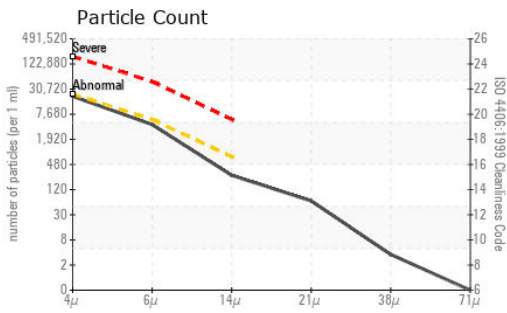
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>50	0	---	---
Potassium	ppm	ASTM D5185(m)	>20	<1	---	---
Water		WC Method	>0.2	NEG	---	---
Particles >4µm		ASTM D7647	>20000	17937	---	---
Particles >6µm		ASTM D7647	>5000	3793	---	---
Particles >14µm		ASTM D7647	>640	233	---	---
Particles >21µm		ASTM D7647	>160	57	---	---
Particles >38µm		ASTM D7647	>40	3	---	---
Particles >71µm		ASTM D7647	>10	0	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	21/19/15	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.2	NEG	---	---

FLUID CONDITION

Viscosity of sample indicates oil is within ISO 150 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		0	---	---
Boron	ppm	ASTM D5185(m)		2	---	---
Barium	ppm	ASTM D5185(m)		0	---	---
Molybdenum	ppm	ASTM D5185(m)		0	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)		<1	---	---
Calcium	ppm	ASTM D5185(m)		71	---	---
Phosphorus	ppm	ASTM D5185(m)		110	---	---
Zinc	ppm	ASTM D5185(m)		93	---	---
Sulfur	ppm	ASTM D5185(m)		1983	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*		0.09	---	---
Visc @ 40°C	cSt	ASTM D7279(m)		157	---	---
Visc @ 100°C	cSt	ASTM D7279(m)		15.8	---	---
Viscosity Index (VI)	Scale	ASTM D2270*		103	---	---



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : TR02636020 **Received** : 16 May 2024
Lab Number : 02636020 **Tested** : 21 May 2024
Unique Number : 5785182 **Diagnosed** : 21 May 2024 - Kevin Marson
Test Package : MOB 2 (Additional Tests: KV100, PrtCount, TAN MAN, VI)

Birla Carbon Canada Ltd.
 755 Parkdale Avenue North
 Hamilton, ON
 CA L8H 7N5
 Contact: Megan Angus

To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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)

T:
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