AOM II

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	NORMAL
OIL CONDITION	NORMAL

Area
System 71 - Main Power Generation [13997704]

Machine Id
Z-7101A Turbine Lube Oil Train A

Component
Turbine

Fluid
MOBIL JET OIL II (750 LTR)

RECOMMENDATION

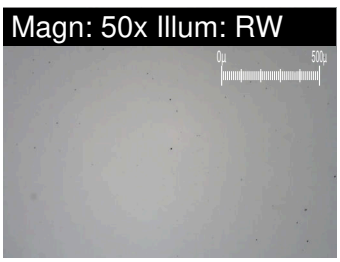
Resample at the next service interval to monitor.

WEAR

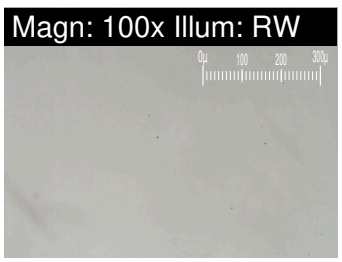
All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

Magn: 200x Illum: BC

Magn: 50x Illum: RW



Magn: 100x Illum: RW



Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PP	PP	WC
Sample Date		Client Info		13 Apr 2024	10 Dec 2023	31 Aug 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
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
PQ		ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>15	0	0	0
Chromium	ppm	ASTM D5185(m)	>4	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>10	<1	0	<1
Lead	ppm	ASTM D5185(m)		0	<1	0
Copper	ppm	ASTM D5185(m)	>5	0	<1	<1
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Large Particles		DR-Ferr*		1.0	3.8	1.4
Small Particles		DR-Ferr*		1.3	2.3	0.9
Total Particles		DR-Ferr*	>---	2.3	6.1	2.3
Large Particles Percentage	%	DR-Ferr*		0	24.6	21.7
Severity Index		DR-Ferr*		0	6	1
Ferrous Rubbing	Scale 0-10	ASTM D7684*		1	1	2
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*			1	1
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				1
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				

CONTAMINANTS

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

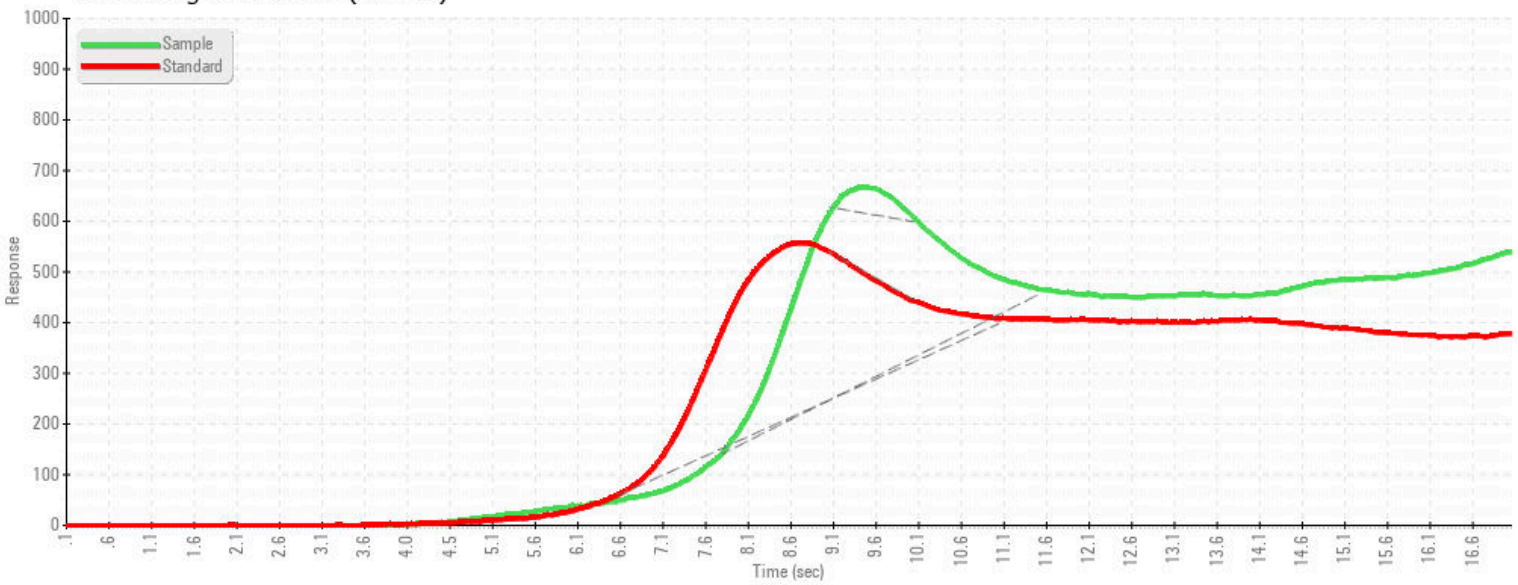
Silicon	ppm	ASTM D5185(m)	>15	**0**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	0	<1
Water	%	ASTM D6304*	>.1	**0.035**	0.046	0.091
ppm Water	ppm	ASTM D6304*	>1000	**353**	466	918.3
Soot %	%	ASTM D7844*		**0.1**	0.2	0.1
Nitration	Abs/cm	ASTM D7624*		**8.4**	8.6	9.1
Sulfation	Abs/.1mm	ASTM D7415*		**168.7**	177.1	162.1
MPC Varnish Potential	Scale	ASTM D7843(m)*	>15	**6**	6	7
Particles >4µm		ASTM D7647	>2500	**226**	2385	487
Particles >6µm		ASTM D7647	>640	**33**	560	119
Particles >14µm		ASTM D7647	>80	**2**	29	11
Particles >21µm		ASTM D7647	>20	**1**	7	4
Particles >38µm		ASTM D7647	>4	**0**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	**15/12/9**	18/16/12	16/14/11
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*	>.1	**NEG**	NEG	NEG
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		**1**	1	1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*			1	1

OIL CONDITION

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

Sodium	ppm	ASTM D5185(m)		**<1**	<1	<1
Boron	ppm	ASTM D5185(m)		**<1**	<1	<1
Barium	ppm	ASTM D5185(m)		**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**0**	0	0
Calcium	ppm	ASTM D5185(m)		**0**	0	<1
Phosphorus	ppm	ASTM D5185(m)		**2701**	2650	2781
Zinc	ppm	ASTM D5185(m)		**<1**	<1	1
Sulfur	ppm	ASTM D5185(m)		**34**	2	2
Oxidation	Abs/.1mm	ASTM D7414*		**241.8**	235.9	223.9
Acid Number (AN)	mg KOH/g	ASTM D974*	0.03	**0.07**	0.07	0.07
Visc @ 40°C	cSt	ASTM D7279(m)	27.6	**25.3**	28.6	25.0
Visc @ 100°C	cSt	ASTM D7279(m)	5.1	**5.1**	5	5
Viscosity Index (VI)	Scale	ASTM D2270*		**133**	99	128
Anti-Oxidant 1	%	ASTM D6971*	<25	**99**	100	95
Lubricant Degradation	Scale 0-10	ASTM D7684*				

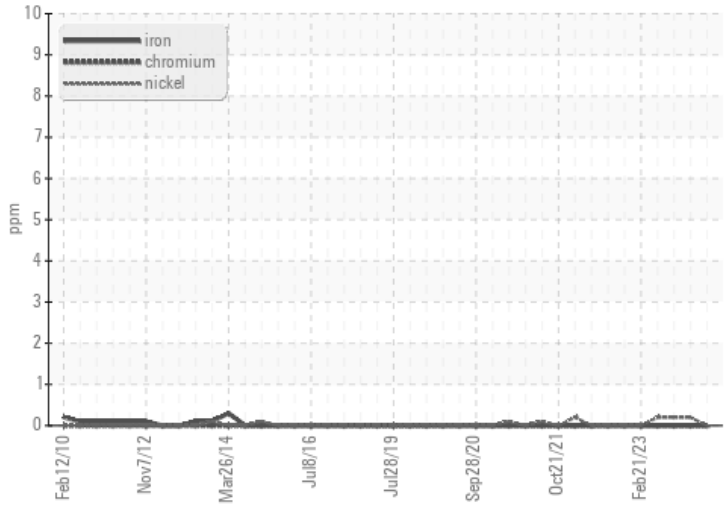
Remaining Useful Life (RULER)



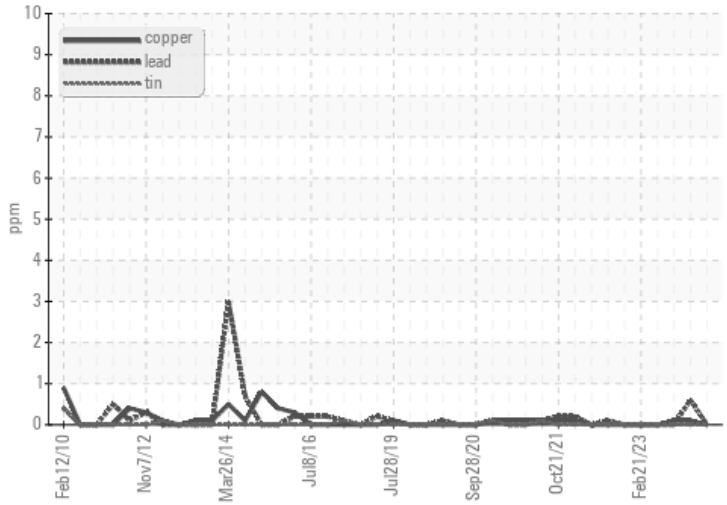
MPC (Varnish Test)

Sample Color & Clarity

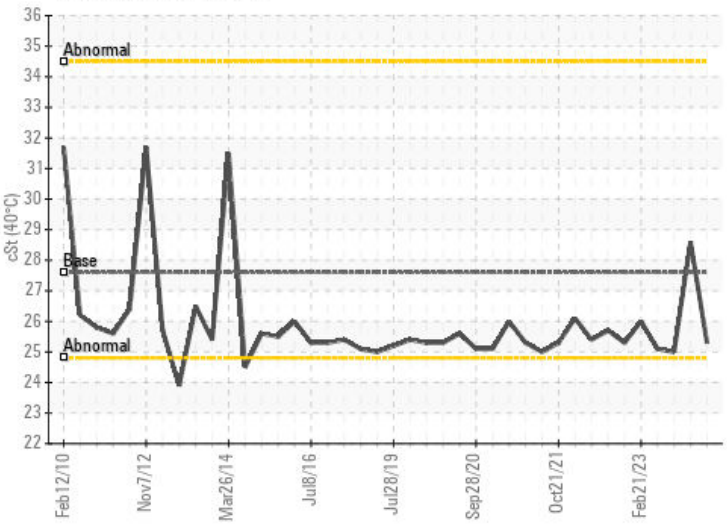
Ferrous Alloys



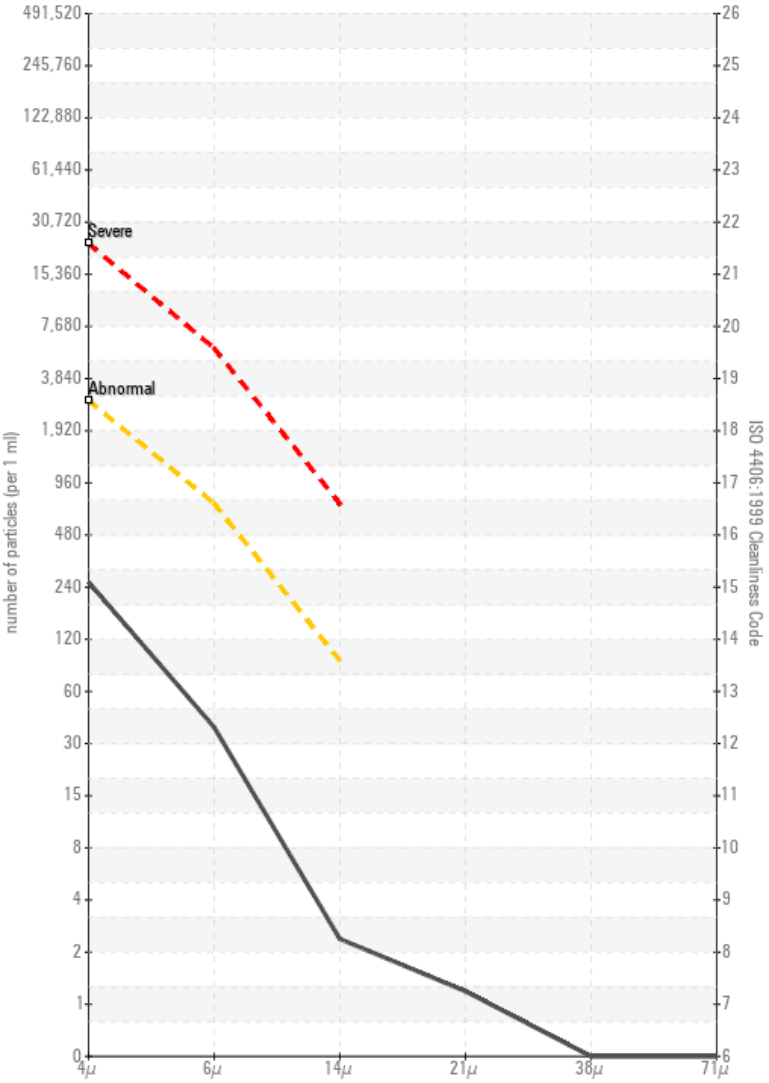
Non-ferrous Metals



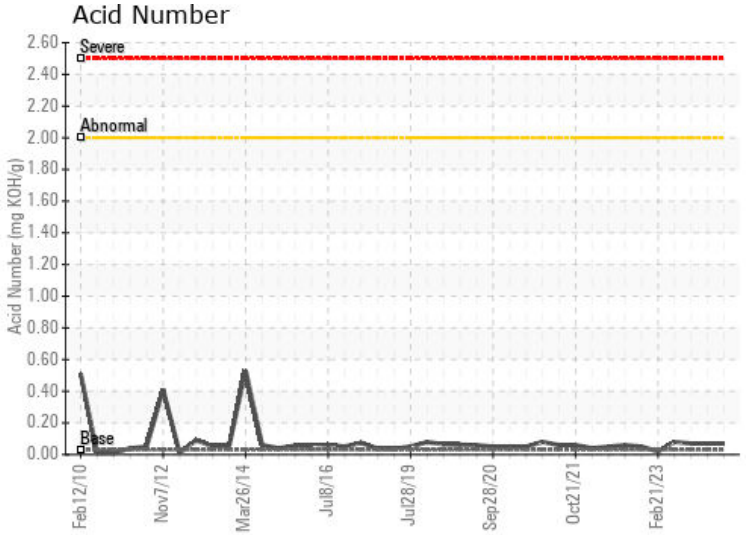
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP
Lab Number : 02631652
Unique Number : 5772805
Test Package : AOM 2

Received : 26 Apr 2024
Tested : 06 May 2024
Diagnosed : 06 May 2024 - Bill Quesnel

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.

HIBERNIA MGMT & DEVELOPMENT CO. LTD
SUITE 1000,, 100 NEW GOWER STREET
ST.JOHNS, NL
CA A1C 6K3
Contact: Sam Nash
samantha.m.nash@exxonmobil.com
T:
F: (709)722-3766