IND II

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	ABNORMAL
OIL CONDITION	NORMAL

Area
BRUCE B/0B/34220
Machine Id
0B-34220-P1-OIL
Component
Bearing
Fluid
MOBIL DTE 732 (--- GAL)

RECOMMENDATION

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

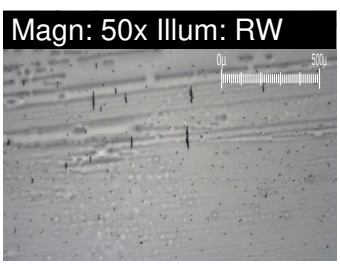
WEAR

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

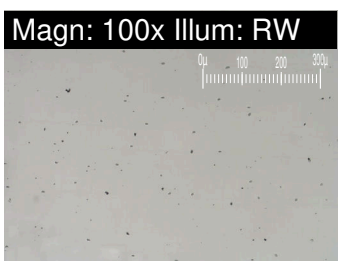
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0515441	WC22113804	---
Sample Date		Client Info		08 Apr 2024	21 Mar 2015	---
Machine Age	hrs	Client Info		0	0	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	ABNORMAL	---
Iron	ppm	ASTM D5185(m)	>10	0	<1	---
Chromium	ppm	ASTM D5185(m)	>5	0	0	---
Nickel	ppm	ASTM D5185(m)	>5	0	0	---
Titanium	ppm	ASTM D5185(m)	>5	0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>5	0	<1	---
Lead	ppm	ASTM D5185(m)	>5	0	<1	---
Copper	ppm	ASTM D5185(m)	>5	0	<1	---
Tin	ppm	ASTM D5185(m)	>5	0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
Large Particles		DR-Ferr*		4.5	17.2	---
Small Particles		DR-Ferr*		3.4	0.4	---
Total Particles		DR-Ferr*	>---	7.9	17.6	---
Large Particles Percentage	%	DR-Ferr*		13.9	95.5	---
Severity Index		DR-Ferr*		5	289	---
Ferrous Rubbing	Scale 0-10	ASTM D7684*		2	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	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*				

Magn: 200x Illum: BC

Magn: 50x Illum: RW



Magn: 100x Illum: RW



CONTAMINANTS

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

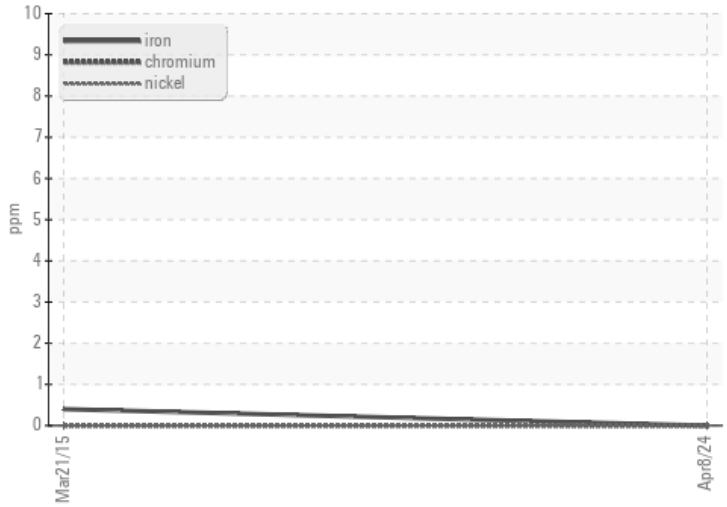
Silicon	ppm	ASTM D5185(m)	>5	**0**	4	---
Potassium	ppm	ASTM D5185(m)	>20	**0**	0	---
Water	%	ASTM D6304*	>0.005	**0.001**	0.001	---
ppm Water	ppm	ASTM D6304*	>50	**5**	18.2	---
Particles >4µm		ASTM D7647	>5000	▲ **10311**	▲ 10835	---
Particles >6µm		ASTM D7647	>1300	▲ **3368**	▲ 2980	---
Particles >14µm		ASTM D7647	>320	**274**	197	---
Particles >21µm		ASTM D7647	>80	**59**	57	---
Particles >38µm		ASTM D7647	>20	**2**	3	---
Particles >71µm		ASTM D7647	>4	**1**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/15	▲ **21/19/15**	▲ 21/19/15	---
Silt	scalar	Visual*	NONE	**NONE**	NONE	---
Debris	scalar	Visual*	NONE	**NONE**	VLITE	---
Sand/Dirt	scalar	Visual*	NONE	**VLITE**	NONE	---
Appearance	scalar	Visual*	NORML	**NORML**	NORML	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	---
Emulsified Water	scalar	Visual*	>0.005	**NEG**	NEG	---
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		**1**	1	
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		**1**	2	

OIL CONDITION

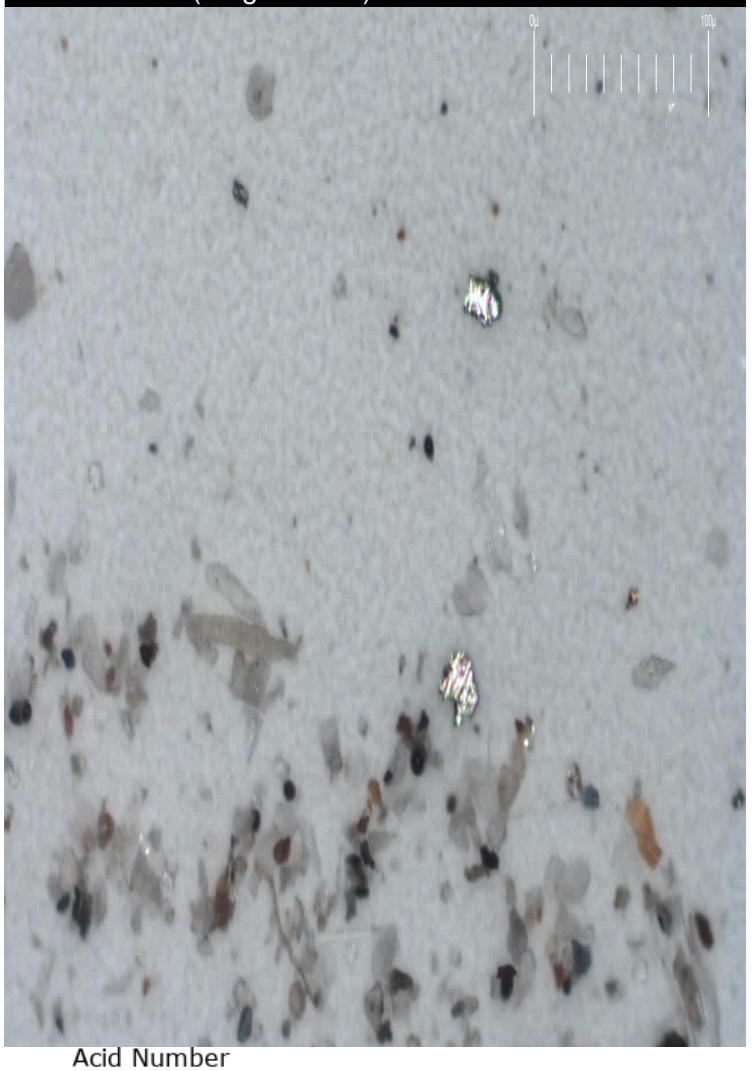
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)	>5	**0**	1	---
Boron	ppm	ASTM D5185(m)		**0**	<1	---
Barium	ppm	ASTM D5185(m)		**0**	0	---
Molybdenum	ppm	ASTM D5185(m)		**0**	0	---
Manganese	ppm	ASTM D5185(m)		**0**	<1	---
Magnesium	ppm	ASTM D5185(m)		**0**	0	---
Calcium	ppm	ASTM D5185(m)		**0**	<1	---
Phosphorus	ppm	ASTM D5185(m)		**0**	1	---
Zinc	ppm	ASTM D5185(m)		**<1**	2	---
Sulfur	ppm	ASTM D5185(m)		**168**	1431	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.10	**0.04**	0.083	---
Visc @ 40°C	cSt	ASTM D7279(m)	30.0	**33.1**	32.2	---
Lubricant Degradation	Scale 0-10	ASTM D7684*				

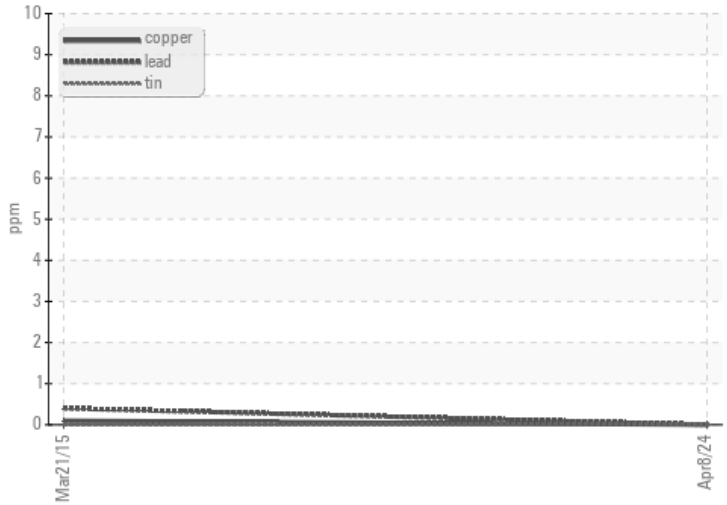
Ferrous Alloys



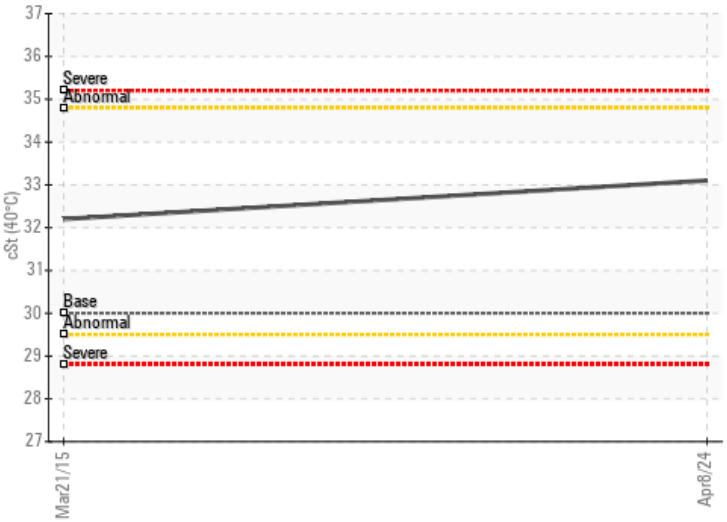
Particle Filter (Magn: 200 x)



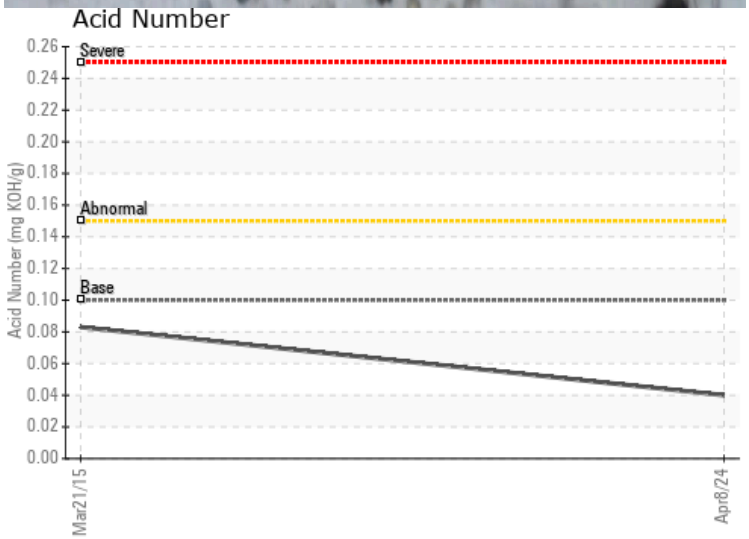
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0515441 **Received** : 15 Apr 2024
Lab Number : 02628852 **Tested** : 23 Apr 2024
Unique Number : 5761984 **Diagnosed** : 23 Apr 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: A-FERR, BottomAnalysis, DR-FERR, FILTERPATCH, PrtFilter, TAN Mod)

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.

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