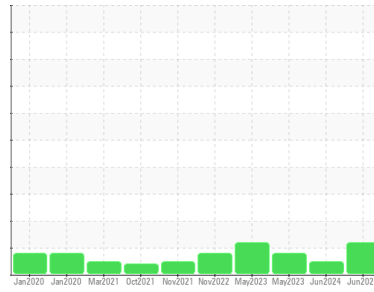




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

Firewater

Machine Id

V411201C FWP PACKAGE C

Component

Hydraulic System

Fluid

MOBIL DTE 10 EXCEL 32 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Fluid 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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PP14005838	PP14000799	PP13869146
Sample Date	Client Info		20 Jun 2024	13 Jun 2024	30 May 2023
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.05	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	1	<1	1
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>10	1	<1	1
Lead	ppm	ASTM D5185(m)	>20	0	0	0
Copper	ppm	ASTM D5185(m)	>20	<1	1	1
Tin	ppm	ASTM D5185(m)	>10	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		<1	<1	0
Barium	ppm	ASTM D5185(m)		<1	<1	<1
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		<1	<1	<1
Calcium	ppm	ASTM D5185(m)	120	98	95	95
Phosphorus	ppm	ASTM D5185(m)	475	482	478	504
Zinc	ppm	ASTM D5185(m)		27	26	24
Sulfur	ppm	ASTM D5185(m)	1275	1322	1311	1245
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	1	2	1
Sodium	ppm	ASTM D5185(m)		2	2	2
Potassium	ppm	ASTM D5185(m)	>20	<1	1	<1

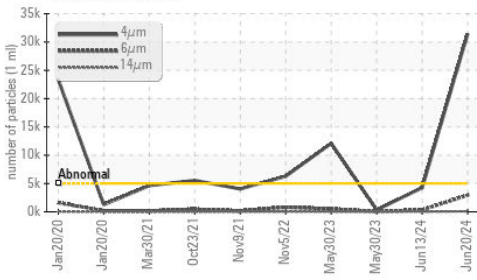
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 31434	4263	▲ 12090
Particles >6µm	ASTM D7647	>1300	▲ 2942	313	513
Particles >14µm	ASTM D7647	>160	88	19	5
Particles >21µm	ASTM D7647	>40	33	5	1
Particles >38µm	ASTM D7647	>10	7	1	0
Particles >71µm	ASTM D7647	>3	2	1	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 22/19/14	19/15/11	▲ 21/16/10

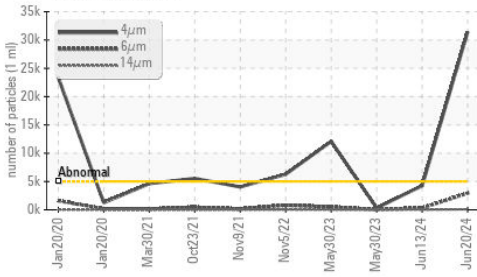


OIL ANALYSIS REPORT

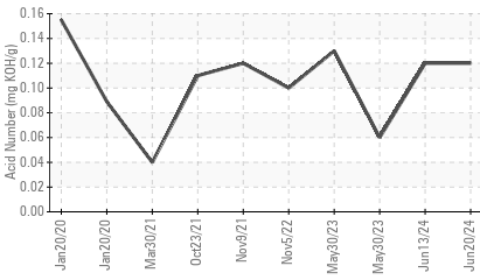
Particle Trend



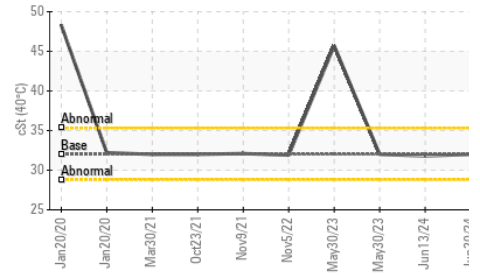
Particle Trend



Acid Number



Viscosity @ 40°C



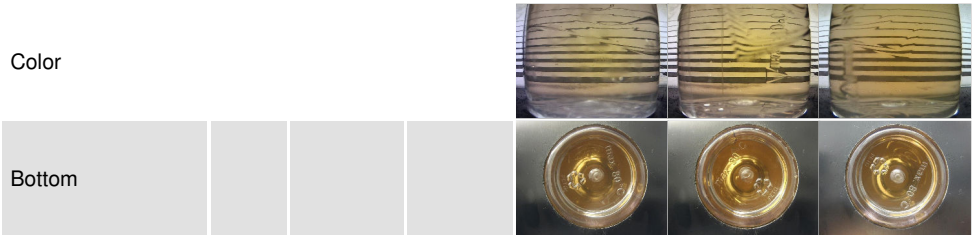
FLUID DEGRADATION

method	limit/base	current	history1	history2		
Acid Number (AN) mg KOH/g	ASTM D974*	0.12	0.12	0.06		
VISUAL						
method	limit/base	current	history1	history2		
White Metal	scalar	Visual*	NONE	VLITE	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
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*	>0.05	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES

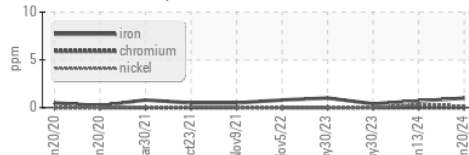
method	limit/base	current	history1	history2		
Visc @ 40°C	cSt	ASTM D7279(m)	32	32.0	31.8	32.0

SAMPLE IMAGES

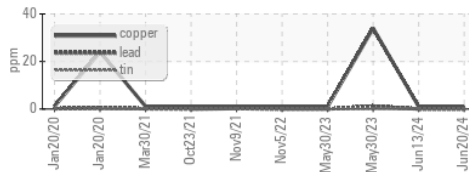


GRAPHS

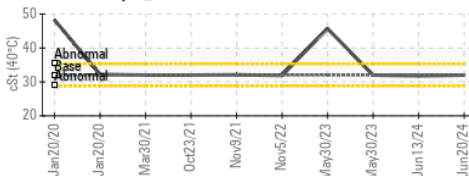
Ferrous Alloys



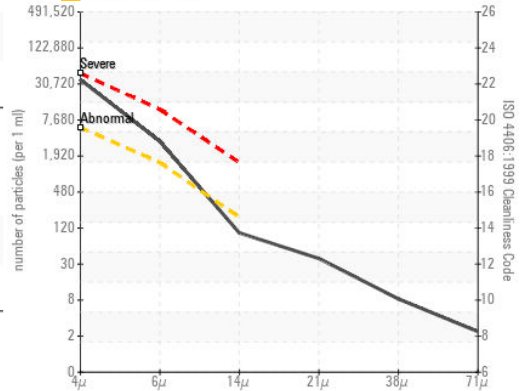
Non-ferrous Metals



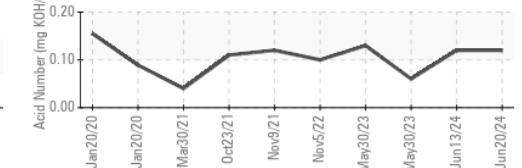
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP14005838 **Received** : 15 Jul 2024
Lab Number : **02647853** **Tested** : 16 Jul 2024
Unique Number : 5813405 **Diagnosed** : 16 Jul 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: Bottom, TAN Man)

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 St. John's, NL
 CA A1C 6K3
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 liam.m.maher@exxonmobil.com
 T: (709)273-3729
 F:

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.