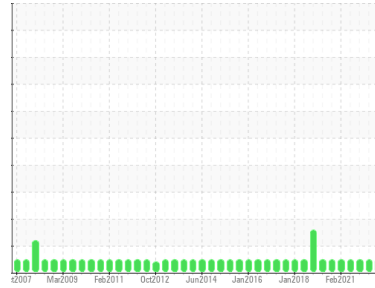




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
#60-00669

Component
Hydraulic System

Fluid
PETRO CANADA HYDREX AW 46 (2000 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

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

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0781369	WC0723867	WC0666798
Sample Date	Client Info	20 Jan 2023	22 Jul 2022	15 Feb 2022
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		NORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185(m)	>40	2	2	2
Chromium ppm ASTM D5185(m)	>4	0	0	0
Nickel ppm ASTM D5185(m)	>20	0	0	<1
Titanium ppm ASTM D5185(m)		0	0	0
Silver ppm ASTM D5185(m)		0	0	0
Aluminum ppm ASTM D5185(m)	>4	0	<1	0
Lead ppm ASTM D5185(m)	>10	0	0	0
Copper ppm ASTM D5185(m)	>60	1	1	1
Tin ppm ASTM D5185(m)	>4	0	0	0
Antimony ppm ASTM D5185(m)		<1	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)	0	5	5	5
Barium ppm ASTM D5185(m)	0	0	0	0
Molybdenum ppm ASTM D5185(m)	0	1	1	1
Manganese ppm ASTM D5185(m)	0	0	0	0
Magnesium ppm ASTM D5185(m)	0	11	11	10
Calcium ppm ASTM D5185(m)	50	182	174	172
Phosphorus ppm ASTM D5185(m)	330	404	385	367
Zinc ppm ASTM D5185(m)	430	436	425	420
Sulfur ppm ASTM D5185(m)	760	838	799	768
Lithium ppm ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185(m)	>20	<1	<1	<1
Sodium ppm ASTM D5185(m)		0	<1	0
Potassium ppm ASTM D5185(m)	>20	0	0	<1

FLUID CLEANLINESS

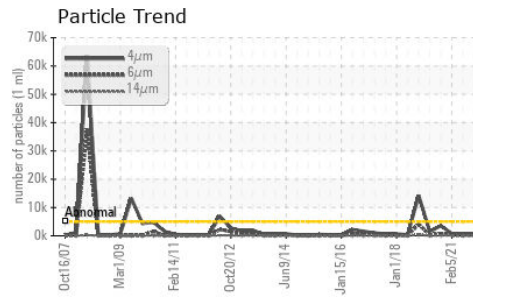
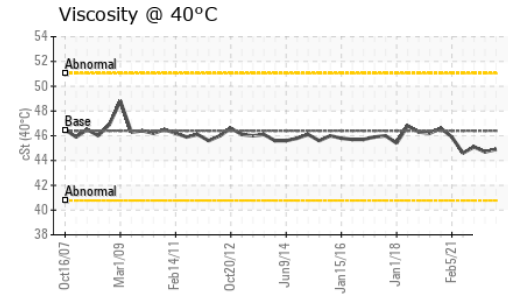
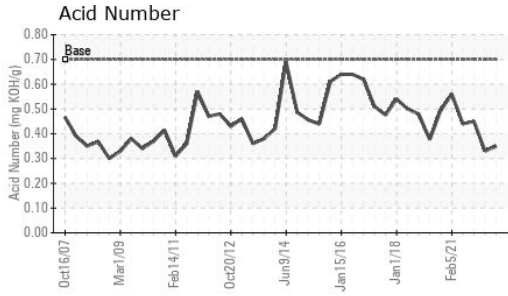
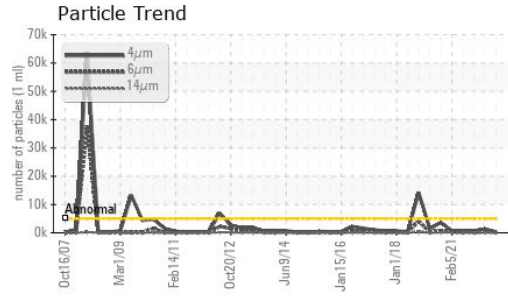
method	limit/base	current	history1	history2
Particles >4µm ASTM D7647	>5000	314	1329	752
Particles >6µm ASTM D7647	>1300	117	540	156
Particles >14µm ASTM D7647	>160	20	42	7
Particles >21µm ASTM D7647	>40	7	10	2
Particles >38µm ASTM D7647	>10	0	1	0
Particles >71µm ASTM D7647	>3	0	0	0
Oil Cleanliness ISO 4406 (c)	>19/17/14	15/14/11	18/16/13	17/14/10

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D974*	0.70	0.35	0.33	0.45



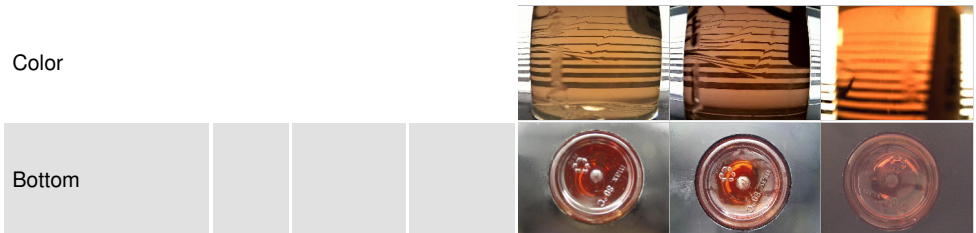
OIL ANALYSIS REPORT



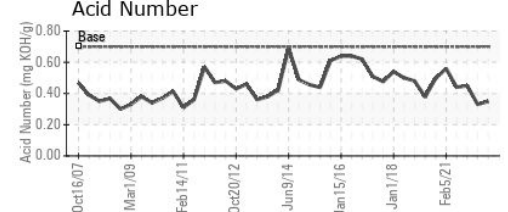
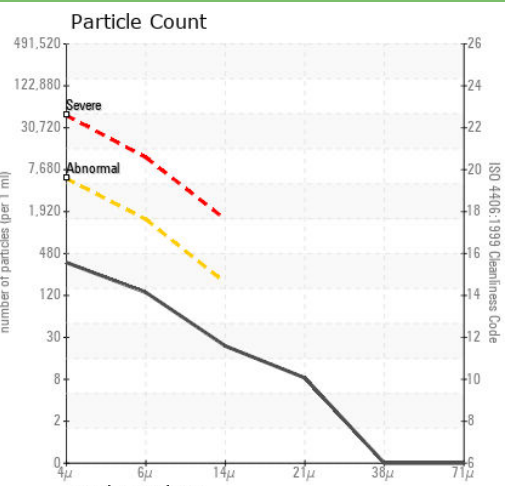
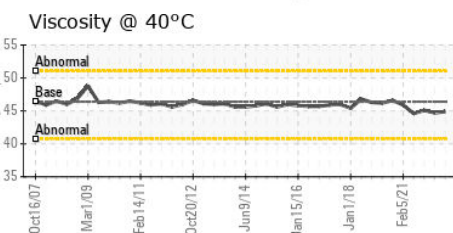
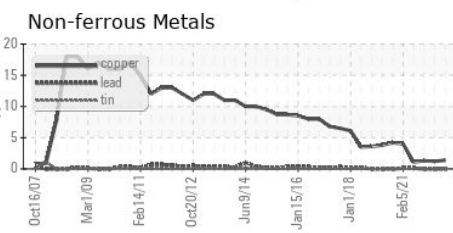
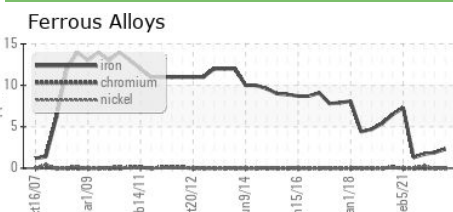
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46.4	44.9	44.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MAHLE FILTER SYSTEMS CANADA**
Sample No. : WC0781369 **Received** : 10 Feb 2023 **16 INDUSTRIAL PARK ROAD**
Lab Number : 02538709 **Diagnosed** : 13 Feb 2023 **TILBURY, ON**
Unique Number : 5527709 **Diagnostician** : Wes Davis **CA N0P 2L0**
Test Package : IND 2

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.

Contact: Kevin Bindner
 kevin.bindner@ca.mahle.com
 T: (519)682-0444
 F: (519)682-5054