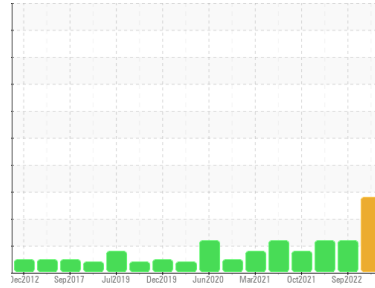


PROBLEM SUMMARY

Sample Rating Trend



VISUAL METAL



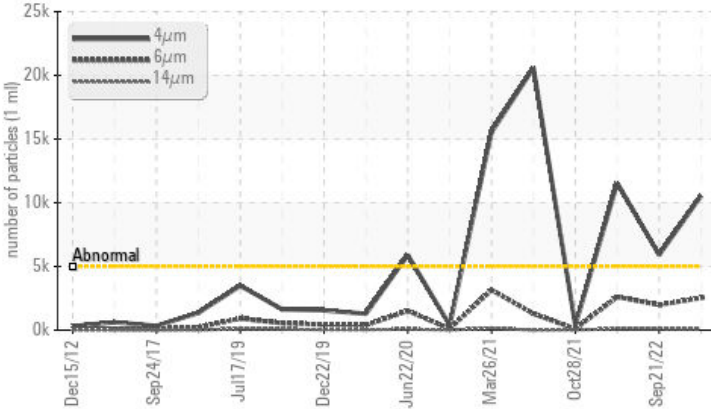
Machine Id
IMM #13 (S/N 2118314)

Component
Hydraulic System

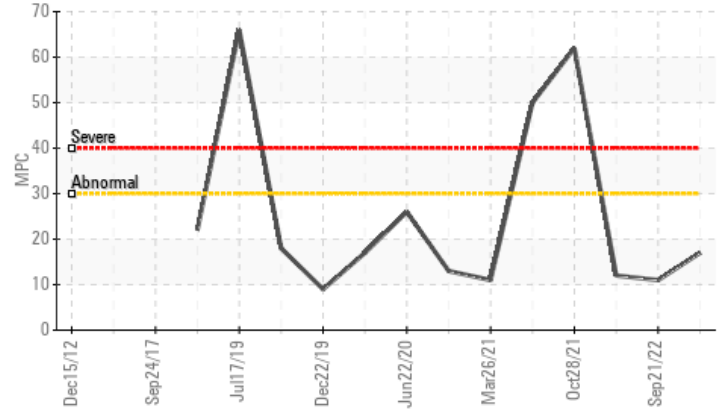
Fluid
PETRO CANADA HYDREX AW 46 (3000 GAL)

COMPONENT CONDITION SUMMARY

▲ Particle Trend




▲ Varnish Potential



RECOMMENDATION

We advise that you check for visible metal particles in the oil. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ATTENTION	ABNORMAL
Particles >4µm	ASTM D7647	>5000	▲ 10537	▲ 5906	▲ 11546
Particles >6µm	ASTM D7647	>1300	▲ 2527	▲ 1985	▲ 2614
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 21/19/13	▲ 20/18/14	▲ 21/19/14
MPC Varnish Potential	Scale	ASTM D7843(m)* >15	▲ 17	11	12
White Metal	scalar	Visual* NONE	▲ LIGHT	NONE	NONE
PrtFilter				no image	no image

Customer Id: ROPOAK
Sample No.: PC0076915
Lab Number: 02571204
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Contact Required	---	---	?	Please contact your representative for information regarding the proper sampling kits for your service.
Alert	---	---	?	NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use.
Check For Visual Metal	---	---	?	We advise that you check for visible metal particles in the oil.

HISTORICAL DIAGNOSIS

21 Sep 2022 Diag: Wes Davis

ISO



The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use. All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service (unconfirmed).

view report



10 May 2022 Diag: Wes Davis

ISO



We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use. All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. MPC (Membrane Patch Colorimetry) test indicates acceptable levels of varnish present. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service (unconfirmed). The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report



28 Oct 2021 Diag: Kevin Marson

INSOLUBLES

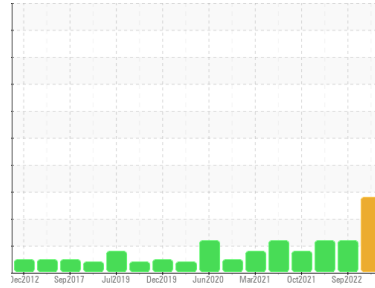


We recommend that you use electrostatic filtration to remove insolubles from the oil and to reduce the levels of varnish in the system. Alternatively draining a percentage of the oil and topping up with fresh oil (sweetening the oil) may provide a reduction in the varnish potential level. We recommend an early resample to monitor this condition. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use. Component wear rates appear to be normal (unconfirmed). MPC (Membrane Patch Colorimetry) test indicates a high concentration of varnish present. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service (unconfirmed).

view report



Machine Id
IMM #13 (S/N 2118314)
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (3000 GAL)



DIAGNOSIS

Recommendation
We advise that you check for visible metal particles in the oil. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use.

Wear
Light concentration of visible metal present.

Contamination
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. MPC (Membrane Patch Colorimetry) test indicates a light concentration of varnish present.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service (unconfirmed). 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	PC0076915	PC0062451	PC0052953
Sample Date	Client Info	11 Jul 2023	21 Sep 2022	10 May 2022
Machine Age	mths	Client Info	0	0
Oil Age	mths	Client Info	4	0
Oil Changed	Client Info	N/A	Changed	N/A
Sample Status		ABNORMAL	ATTENTION	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >40	<1	<1	1
Chromium	ppm	ASTM D5185(m) >4	0	0	0
Nickel	ppm	ASTM D5185(m) >20	<1	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >4	0	0	0
Lead	ppm	ASTM D5185(m) >10	0	<1	<1
Copper	ppm	ASTM D5185(m) >60	1	2	2
Tin	ppm	ASTM D5185(m) >4	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

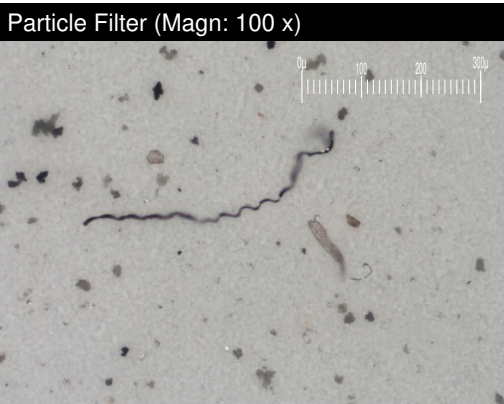
method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m) 0	<1	<1	<1
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	0	0	0
Magnesium	ppm	ASTM D5185(m) 0	2	0	0
Calcium	ppm	ASTM D5185(m) 50	31	32	28
Phosphorus	ppm	ASTM D5185(m) 330	365	351	339
Zinc	ppm	ASTM D5185(m) 430	365	354	342
Sulfur	ppm	ASTM D5185(m) 760	744	768	740
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

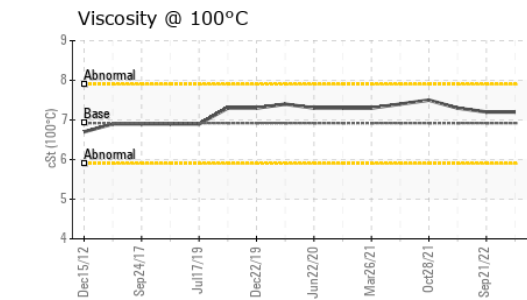
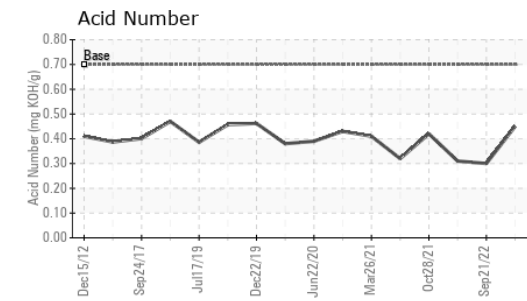
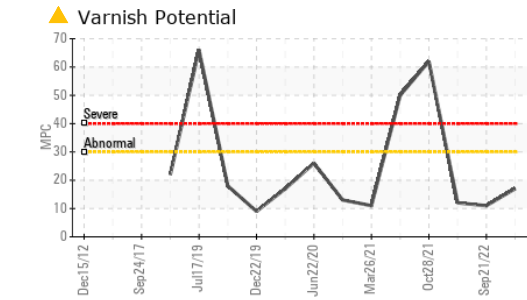
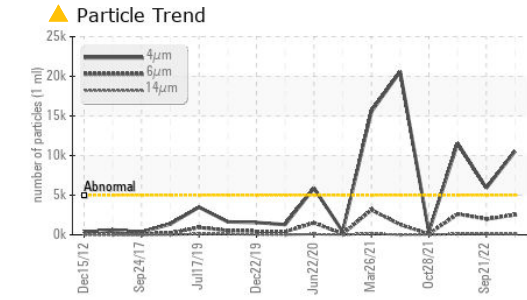
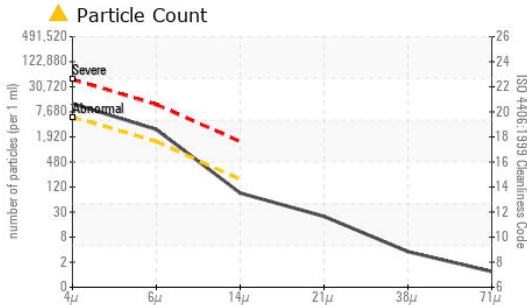
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >20	<1	<1	<1
Sodium	ppm	ASTM D5185(m)	<1	0	0
Potassium	ppm	ASTM D5185(m) >20	<1	0	<1

FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>5000	▲ 10537	▲ 5906	▲ 11546
Particles >6µm	ASTM D7647	>1300	▲ 2527	▲ 1985	▲ 2614
Particles >14µm	ASTM D7647	>160	76	109	110
Particles >21µm	ASTM D7647	>40	21	31	19
Particles >38µm	ASTM D7647	>10	3	2	2
Particles >71µm	ASTM D7647	>3	1	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 21/19/13	▲ 20/18/14	▲ 21/19/14



OIL ANALYSIS REPORT

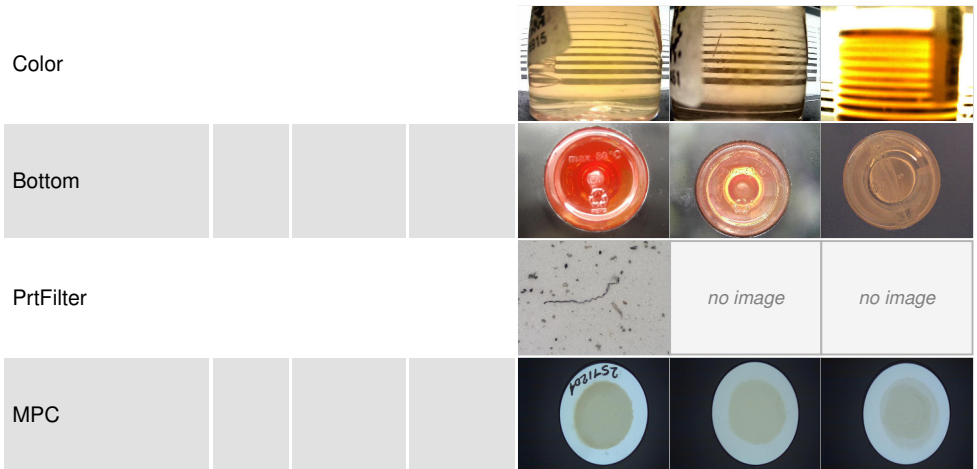


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.70	0.45	0.30	0.31
MPC Varnish Potential	Scale	ASTM D7843(m)*	>15	▲ 17	11	12

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	▲ LIGHT	NONE	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	VLITE	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)	46.4	45.1	45.4	46.0
Visc @ 100°C	cSt	ASTM D7279(m)	6.92	7.2	7.2	7.3
Viscosity Index (VI)	Scale	ASTM D2270*	104	120	119	120

SAMPLE IMAGES



ISO 17025:2017
Accredited
Laboratory

Laboratory Sample No. : PC0076915
Lab Number : **02571204**
Unique Number : 5616255
Test Package : IND 2 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, KV100, MPC, PrtFilter, TAN Man, VI)

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Received : 20 Jul 2023
Diagnosed : 21 Jul 2023
Diagnostician : Kevin Marson

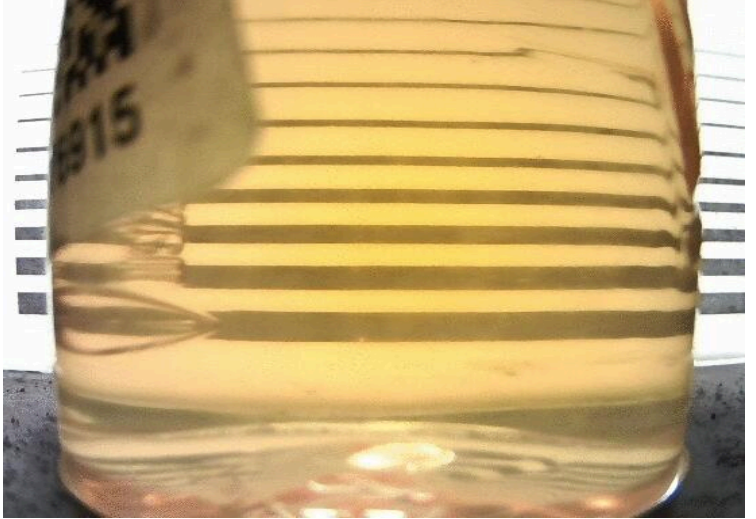
ROPAK PACKAGING CANADA
2240 WYECROFT RD
OAKVILLE, ON
CA L6L 6M1
Contact: Frank Maio
Frank.Maio@mauserpackaging.com
T: (905)465-9019
F:

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.

MPC (Varnish Test)



Sample Color & Clarity



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