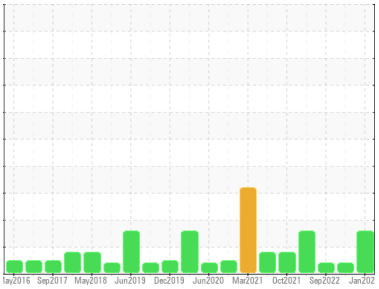
OIL ANALYSIS REPORT

Sample Rating Trend



INSOLUBLES

Machine Id
IMM #5 (S/N 200151)
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (2000 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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.

Wear

All component wear rates are normal.

Contamination

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

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		**PC0076980**	PC0076955	PC0062457
Sample Date		Client Info		**15 Jan 2024**	11 Jul 2023	21 Sep 2022
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	60
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**ABNORMAL**	MARGINAL	MARGINAL

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)	>40	**<1**	<1	<1
Chromium	ppm	ASTM D5185(m)	>4	**<1**	<1	0
Nickel	ppm	ASTM D5185(m)	>20	**<1**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>4	**<1**	<1	0
Lead	ppm	ASTM D5185(m)	>10	**<1**	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)		**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

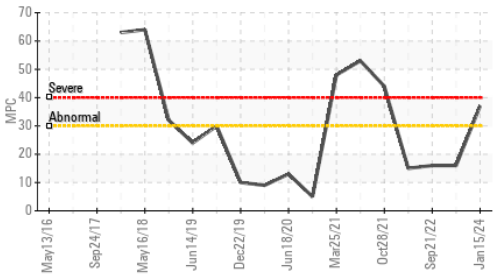
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**0**	<1	<1
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)	0	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	0	**<1**	1	0
Calcium	ppm	ASTM D5185(m)	50	**34**	38	42
Phosphorus	ppm	ASTM D5185(m)	330	**342**	354	348
Zinc	ppm	ASTM D5185(m)	430	**389**	402	400
Sulfur	ppm	ASTM D5185(m)	760	**789**	729	738
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

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

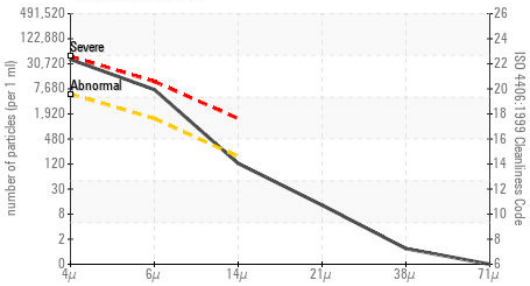
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ **33967**	1647	1675
Particles >6µm	ASTM D7647	>1300	▲ **6435**	443	474
Particles >14µm	ASTM D7647	>160	**109**	32	26
Particles >21µm	ASTM D7647	>40	**11**	6	4
Particles >38µm	ASTM D7647	>10	**1**	0	0
Particles >71µm	ASTM D7647	>3	**0**	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ **22/20/14**	18/16/12	18/16/12

OIL ANALYSIS REPORT

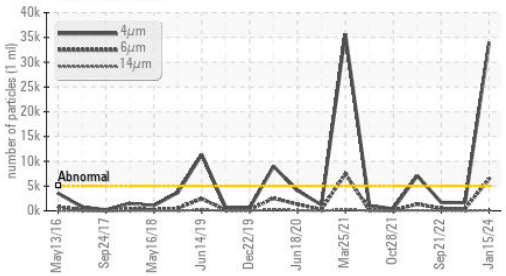
Varnish Potential



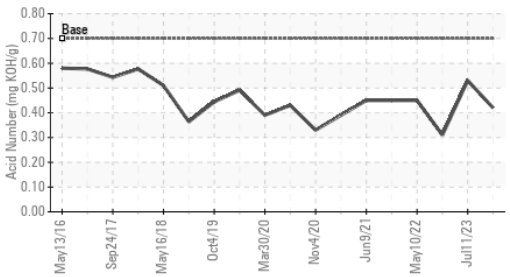
Particle Count



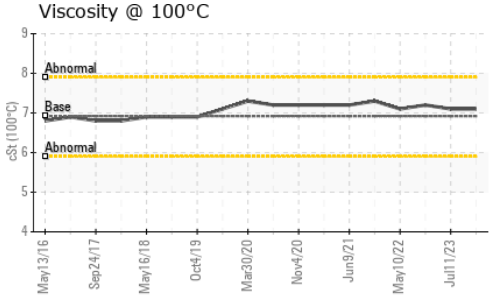
Particle Trend



Acid Number



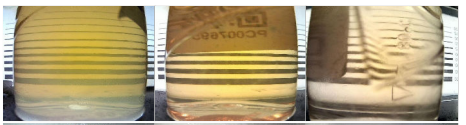
Viscosity @ 100°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.70	**0.42**	0.53	0.31
MPC Varnish Potential	Scale	ASTM D7843(m)*	>15	▲ **37**	▲ 16	▲ 16

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	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	**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)	46.4	**44.8**	44.8	45.4
Visc @ 100°C	cSt	ASTM D7279(m)	6.92	**7.1**	7.1	7.2
Viscosity Index (VI)	Scale	ASTM D2270*	104	**117**	117	119

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
MPC					

CALA Testing Accreditation No. 1005078
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076980 **Recieved** : 26 Jan 2024
Lab Number : 02611534 **Diagnosed** : 30 Jan 2024
Unique Number : 5720629 **Diagnostician** : Bill Quesnel
Test Package : IND 2 (Additional Tests: KV100, MPC, VI)

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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CA L6L 6M1
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MPC (Varnish Test)

Sample Color & Clarity

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