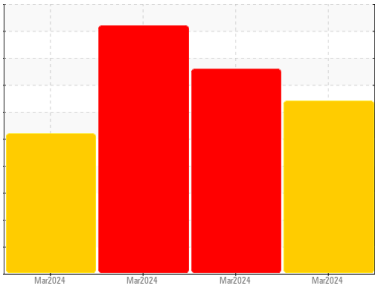
PROBLEM SUMMARY

Sample Rating Trend

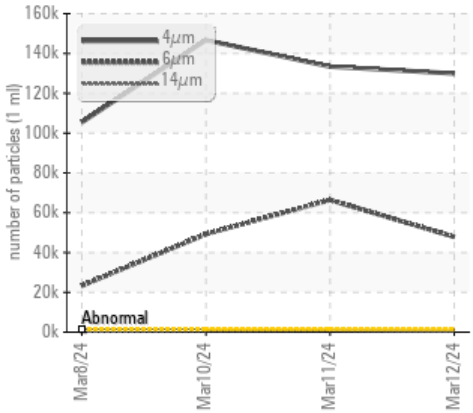


ISO

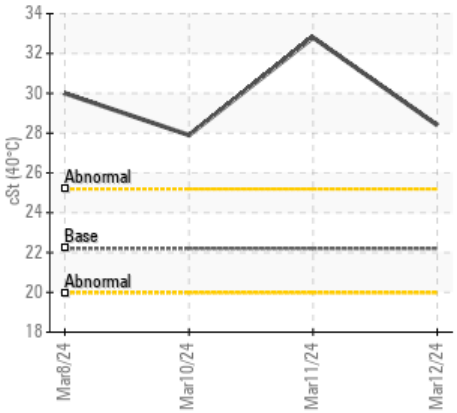
Machine Id
429845
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX MV 22 (--- LTR)

COMPONENT CONDITION SUMMARY

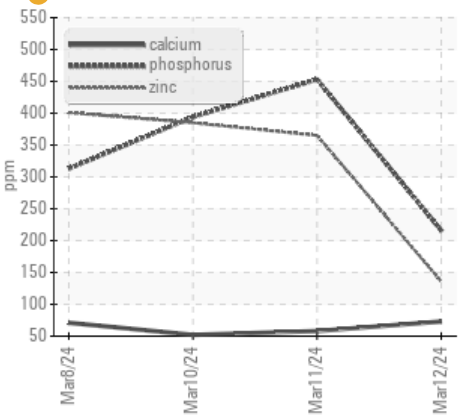
Particle Trend



Viscosity @ 40°C



Additives



RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. The oil change at the time of sampling has been noted. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Particles >4µm		ASTM D7647	>1300	▲ **129937**	▲ 133397	▲ 146692
Particles >6µm		ASTM D7647	>320	▲ **47883**	▲ 66386	▲ 49257
Particles >14µm		ASTM D7647	>80	▲ **601**	▲ 1079	▲ 928
Particles >21µm		ASTM D7647	>20	▲ **111**	▲ 98	▲ 173
Oil Cleanliness		ISO 4406 (c)	>17/15/13	▲ **24/23/16**	▲ 24/23/17	▲ 24/23/17
Visc @ 40°C	cSt	ASTM D7279(m)	22.2	▲ **28.4**	▲ 32.8	27.9
Viscosity Index (VI)	Scale	ASTM D2270*	156	▲ **127**	135	138

Customer Id: BLU410MIS
Sample No.: PC0081140
Lab Number: 02623727
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
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.

HISTORICAL DIAGNOSIS

ISO

11 Mar 2024 Diag: Kevin Marson

We advise that you check all areas where contaminants can enter the system. The oil change at the time of sampling has been noted. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is a high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. Viscosity of sample indicates oil is within ATF range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

ISO

10 Mar 2024 Diag: Kevin Marson

We advise that you check all areas where contaminants can enter the system. The oil change at the time of sampling has been noted. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.Iron ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. All other component wear rates are normal. There is a high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

ISO

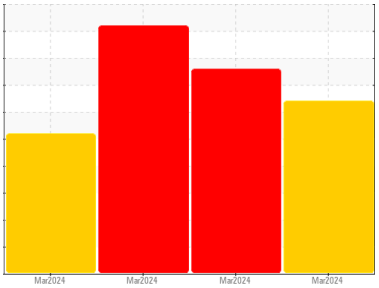
08 Mar 2024 Diag:

view report

LUBE 360 DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
429845
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX MV 22 (--- LTR)

DIAGNOSIS

▲ Recommendation

We advise that you check all areas where contaminants can enter the system. The oil change at the time of sampling has been noted. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. 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 high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

▲ Fluid Condition

Viscosity of sample indicates oil is within ATF range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. 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		**PC0081140**	PC0081138	PC0081143
Sample Date		Client Info		**12 Mar 2024**	11 Mar 2024	10 Mar 2024
Machine Age	yrs	Client Info		**6**	6	6
Oil Age	yrs	Client Info		**6**	6	6
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	SEVERE

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	**19**	20	29
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**0**	0	0
Lead	ppm	ASTM D5185(m)	>20	**0**	0	0
Copper	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>20	**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

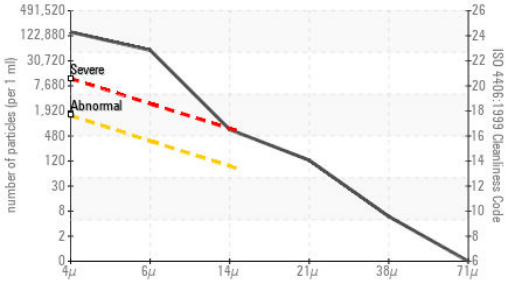
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**47**	27	13
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**3**	1	0
Manganese	ppm	ASTM D5185(m)	1	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	0	**9**	7	6
Calcium	ppm	ASTM D5185(m)	50	**73**	58	52
Phosphorus	ppm	ASTM D5185(m)	330	**216**	453	394
Zinc	ppm	ASTM D5185(m)	430	**136**	365	385
Sulfur	ppm	ASTM D5185(m)	760	**551**	3545	2394
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**8**	7	9
Sodium	ppm	ASTM D5185(m)		**2**	2	3
Potassium	ppm	ASTM D5185(m)	>20	**0**	0	<1

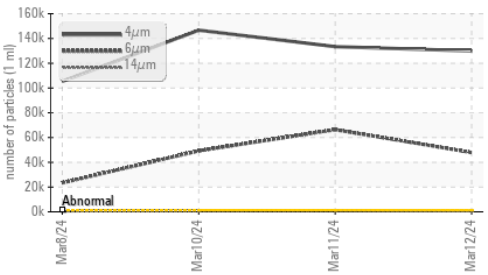
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>1300	▲ **129937**	▲ 133397	▲ 146692
Particles >6µm		ASTM D7647	>320	▲ **47883**	▲ 66386	▲ 49257
Particles >14µm		ASTM D7647	>80	▲ **601**	▲ 1079	▲ 928
Particles >21µm		ASTM D7647	>20	▲ **111**	▲ 98	▲ 173
Particles >38µm		ASTM D7647	>4	**5**	3	▲ 11
Particles >71µm		ASTM D7647	>3	**0**	0	1
Oil Cleanliness		ISO 4406 (c)	>17/15/13	▲ **24/23/16**	▲ 24/23/17	▲ 24/23/17

OIL ANALYSIS REPORT

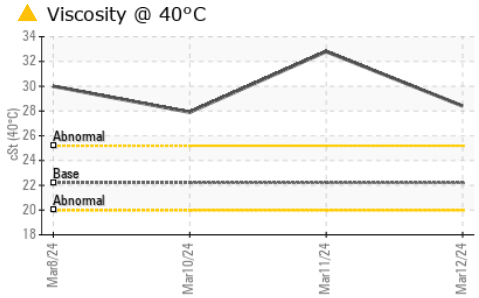
Particle Count



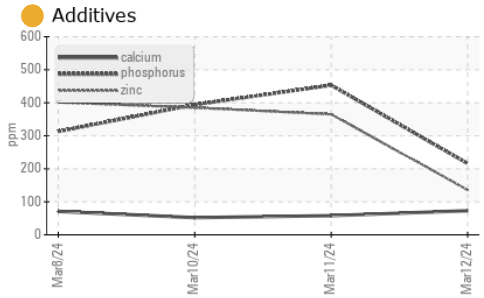
Particle Trend



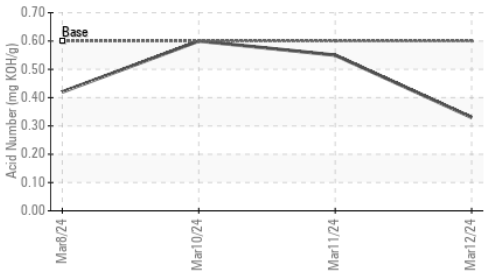
Viscosity @ 40°C



Additives



Acid Number



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	**0.33**	0.55	0.60

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)	22.2	▲ **28.4**	▲ 32.8	27.9
Visc @ 100°C	cSt	ASTM D7279(m)	4.95	**5.4**	▲ 6.1	5.5
Viscosity Index (VI)	Scale	ASTM D2270*	156	▲ **127**	135	138

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0081140
Lab Number : 02623727
Unique Number : 5748846
Test Package : IND 2 (Additional Tests: KV100, VI)
Received : 21 Mar 2024
Tested : 22 Mar 2024
Diagnosed : 22 Mar 2024 - Kevin Marson

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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