

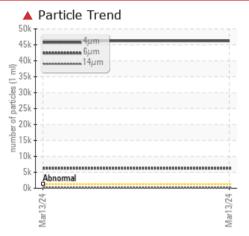
Sample Rating Trend

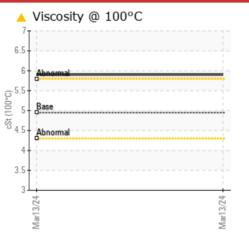


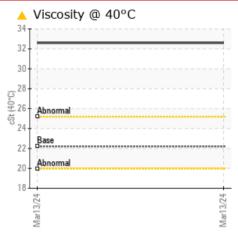
Machine Id 424845

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

COMPONENT CONDITION SUMMARY







ISO

RECOMMENDATION

Check seals and/or filters for points of contaminant entry. 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. We recommend you service the filters on this component. 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

THOBEEN ATT	·	I LEGGEI	~		
Sample Status				SEVERE	
Particles >4µm		ASTM D7647	>1300	46224	
Particles >6µm		ASTM D7647	>320	6247	
Oil Cleanliness		ISO 4406 (c)	>17/15/13	a 23/20/14	
Visc @ 40°C	cSt	ASTM D7279(m)	22.2	A 32.6	
Visc @ 100°C	cSt	ASTM D7279(m)	4.95	6 5.9	
Viscosity Index (VI)	Scale	ASTM D2270*	156	🔺 126	

Customer Id: BLU410MIS Sample No.: PC0081139 Lab Number: 02623730 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			?	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 Seals			?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT



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Machine Id 424845 Component Hydraulic System Fluid PETRO CANADA HYDREX MV 22 (--- LTR)

DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. 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. We recommend you service the filters on this component. 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 silt (particulates < 14 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. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

				Mar2024		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0081139		
Sample Date		Client Info		13 Mar 2024		
Machine Age	yrs	Client Info		6		
Oil Age	yrs	Client Info		6		
Oil Changed	J -	Client Info		Changed		
Sample Status				SEVERE		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG		
WEAR METAL	.S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	6		
Chromium	ppm	ASTM D5185(m)	>20	0		
Nickel	ppm	ASTM D5185(m)	>20	0		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		0		
Aluminum	ppm	ASTM D5185(m)	>20	0		
Lead	ppm	ASTM D5185(m)	>20	0		
Copper	ppm	ASTM D5185(m)	>20	<1		
Tin	ppm	ASTM D5185(m)	>20	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
	1-1-	· /				
Gaumum	ppm	ASTM D5185(m)		0		
	ppm	ASTM D5185(m) method	limit/base		 history1	
ADDITIVES		method		current		history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	0	current	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185(m) ASTM D5185(m)	0	current 23 0	history1	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0	23 0 1	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 1	23 0 1 0	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 1 0	23 0 1 0 12	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50	23 0 1 0 12 71	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50 330	23 0 1 0 12 71 273	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50 330 430	23 0 1 0 12 71 273 286	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50 330 430 760	23 0 1 0 12 71 273 286 787	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50 330 430 760	23 0 1 0 12 71 273 286 787 <1	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50 330 430 760	Current 23 0 1 2 0 12 71 273 286 787 <1 286 787 <1	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50 330 430 760	Current 23 0 1 0 12 71 273 286 787 <1	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 50 330 430 760 limit/base	Current 23 0 1 0 12 71 273 286 787 <1	history1 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50 330 430 760 limit/base >15	Current 23 0 1 0 12 71 273 286 787 <1	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 1 0 50 330 430 760 limit/base >15 >20	Current 23 0 1 0 12 71 273 286 787 <1	history1 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m)	0 0 0 1 50 330 430 760 limit/base >15 >20 limit/base >1300	Current 23 0 1 0 12 71 273 286 787 <1	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m)	0 0 0 1 50 330 430 760 760 760 760 760 760 760 760 760 76	Current 23 0 1 0 12 71 273 286 787 <1 Current 1 <1 0 Current 4 46224 46224	history1 history1 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Dhosphorus Zinc Sulfur Difur CONTAMINAN Silicon Sodium Potassium Potassium Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185(m) ASTM D5185(m)	0 0 1 0 50 330 430 760 50 330 430 760 50 50 50 50 50 50 50 50 50 50 50 50 50	Current 23 0 1 0 12 71 273 286 787 <1	history1 history1 history1 history1 history1 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m)	0 0 1 0 50 330 430 760 50 330 430 760 50 50 50 50 50 50 50 50 50 50 50 50 50	Current 23 0 1 0 12 71 273 286 787 <1	history1 history1 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7647	0 0 0 1 50 330 430 760 50 50 50 50 50 50 50 50 50 50 50 50 50	23 0 1 0 12 71 273 286 787 <1	history1 history1 history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 1 50 330 430 760 50 50 50 50 50 50 50 50 50 50 50 50 50	23 0 1 0 12 71 273 286 787 <1	history1 history1 <td>history2 </td>	history2



Particle Trend

0k Apnormal

6μm 14μm

▲ Viscosity @ 100°C

▲ Viscosity @ 100°C

umper of particles (1 ml) 30k 20k 10k

> 7-6.5-

(2) 5.5 - Base ³ 4.5 - Abnormal

Mar13/24

6.5

() 5.5 00[) 5 3 4.5 - Abno

0.70 0.60 (B/HOX 0.50

Ē 0.40

Via 0.30 Via Number (0.20 0.10

Mar13/24

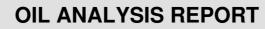
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4.5 Abnormal 3.5 3 + 7/2 [Jack Market Market

▲ Viscosity @ 40°C

Acid Number

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	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	0.20		
	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
	Precipitate	scalar	Visual*	NONE	NONE		
24	Silt	scalar	Visual*	NONE	NONE		
Marl 3/24	Debris	scalar	Visual*	NONE	NONE		
2	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
	Odor	scalar	Visual*	NORML	NORML		
	Emulsified Water	scalar	Visual*	>0.05	NEG		
	Free Water	scalar	Visual*		NEG		
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D7279(m)	22.2	32.6		
	Visc @ 100°C	cSt	ASTM D7279(m)		▲ 5.9		
Marl 3/24	Viscosity Index (VI)	Scale	ASTM D2270*	156	▲ 126		
Ma	SAMPLE IMAG			limit/base		history1	history
	SAIVIPLE IIVIAC	223	method	iimii/base	current	nistory i	history2
	Color					no (more	na imaga
	Color					no image	no image
	Bottom					no image	no image
Marl 3/24	GRAPHS	-					
	Ferrous Alloys				Particle Count		
	¹⁰ I			491,52	20 T		т2
	E 5-			122,88	30-		-2
	E 5-			122,88			-2
	E 5-			30,72	Severe		-2
	E 5-			30,72	Severe		-2
	E 5-	ls		30,72	20 Severe		-2
	Non-ferrous Metal	ls		30,72 8,7,7 8,0,7 1,92 1,92 1,92 1,92 1,92 1,92 1,92 1,92	20 Severe 20 Abnormal		-2 -2 -1 -1
VC CTV	Non-ferrous Metal	ls		30,72 7,66 1,305 1,907 1	20 Severe 20 Abnormal		-2 -2 -1
CCTT	Non-ferrous Metal	ls		30,72 8,7,7 8,0,7 1,92 1,92 1,92 1,92 1,92 1,92 1,92 1,92	20 Severe 20 Abnormal		+2 +2 +1 +1 +1 +1
And the second	Non-ferrous Metal	ls		73,0,7 7,00 1,00 1,00 1,00 1,00 1,00 1,00	20 Severe 20 Abnormal 20 Abnormal 20 Abnormal		+2 +2 +1 +1 +1 +1
VCCrrvP	Non-ferrous Metal	ls		30,72 8,7,7 8,0,7 1,92 1,92 1,92 1,92 1,92 1,92 1,92 1,92	20 Severe 20 Abnormal 20 Abnormal 20 Abnormal 20 Abnormal 20 Abnormal 20 Abnormal 20 Abnormal		-2 -2 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
Acctual	Non-ferrous Metal	ls		30.77 9-75 1.92 4 4 7 1.92 4 1.92 1.92 4 1.92 1.92 1.92 1.92 1.92 1.92 1.92 1.92	20 Severe 20 Abnormal 20 Abno	14μ 21μ	-2 -2 -11 -11 -11 -11 -11 -11
WCCTT	Non-ferrous Metal	ls		30.77 9-75 1.92 4 4 7 1.92 4 1.92 1.92 4 1.92 1.92 1.92 1.92 1.92 1.92 1.92 1.92	20 Severe 20 Abnormal 20 Abno	14μ 21μ	-2 -2 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
And the second se	Non-ferrous Metal	ls		30.77 9-75 1.92 4 4 7 1.92 4 1.92 1.92 4 1.92 1.92 1.92 1.92 1.92 1.92 1.92 1.92	20 Severe 20 Abnormal 20 Abno	14μ 21μ	-2 -2 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
VCCT	Non-ferrous Metal	ls		30.77 9-75 1.92 4 4 7 1.92 4 1.92 1.92 4 1.92 1.92 1.92 1.92 1.92 1.92 1.92 1.92	20 Severe 20 Abnormal 20 Abno	14μ 21μ	-2 -2 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
ACCI-AA	Non-ferrous Metal	ls		30.77 40.00 1.02 40.00 40	20 Severe 20 Abnormal 20 Abno	14μ 21μ	-2 -2 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
	Non-ferrous Metal	ls		30.77 40.00 1.02 40.00 40	20 Severe 20 Abnormal 20 Abno	14μ 21μ	-2 -2 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
Laboratory Sample No. Lab Number Unique Number Test Package discuss this sample report	Non-ferrous Metal	5 Appleby Recei Teste Diagn	ved : 21 d : 22 losed : 22 0, VI)	30.77 30.77 10.1	Abnormal Abnormal Abnormal Acid Number Acid Number CL 5H9 Blue C	Giant Equipmer 410 Adr M Con	