

# PROBLEM SUMMARY

Sample Rating Trend

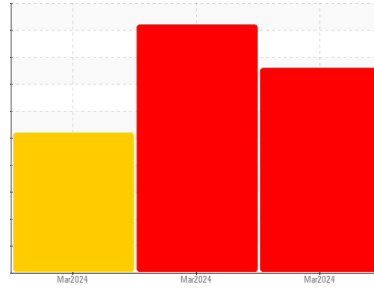
ISO



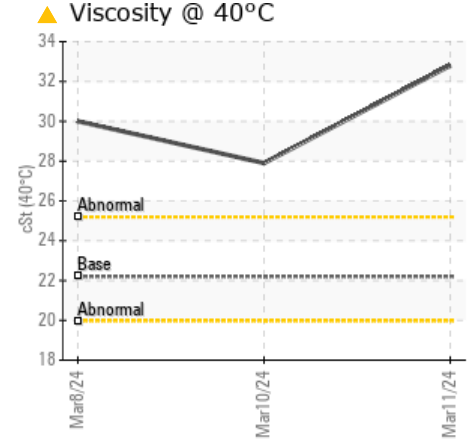
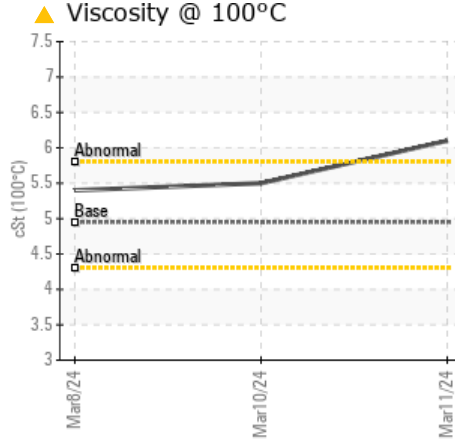
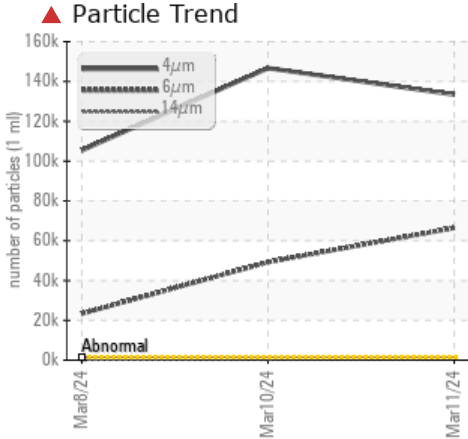
Machine Id  
**429845**

Component  
**Hydraulic System**

Fluid  
**PETRO CANADA HYDREX MV 22 (--- LTR)**



## COMPONENT CONDITION SUMMARY



## 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	▲ 133397	▲ 146692	▲ 105389
Particles >6µm	ASTM D7647	>320	▲ 66386	▲ 49257	▲ 23345
Particles >14µm	ASTM D7647	>80	▲ 1079	▲ 928	▲ 413
Particles >21µm	ASTM D7647	>20	▲ 98	▲ 173	▲ 61
Oil Cleanliness	ISO 4406 (c)	>17/15/13	▲ 24/23/17	▲ 24/23/17	▲ 24/22/16
Visc @ 40°C	cSt	ASTM D7279(m) 22.2	▲ 32.8	27.9	▲ 30.0
Visc @ 100°C	cSt	ASTM D7279(m) 4.95	▲ 6.1	5.5	5.4

Customer Id: BLU410MIS  
Sample No.: PC0081138  
Lab Number: 02623728  
Test Package: IND 2



To manage this report scan the QR code

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## 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

### 10 Mar 2024 Diag: Kevin Marson

ISO



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



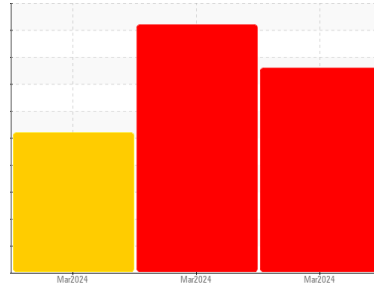
### 08 Mar 2024 Diag:

ISO



view report





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			<b>PC0081138</b>	PC0081143	PC0081136
Sample Date	Client Info			<b>11 Mar 2024</b>	10 Mar 2024	08 Mar 2024
Machine Age	yrs	Client Info		<b>6</b>	6	6
Oil Age	yrs	Client Info		<b>6</b>	6	6
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>SEVERE</b>	SEVERE	SEVERE

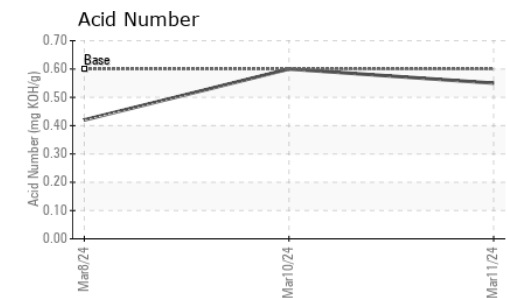
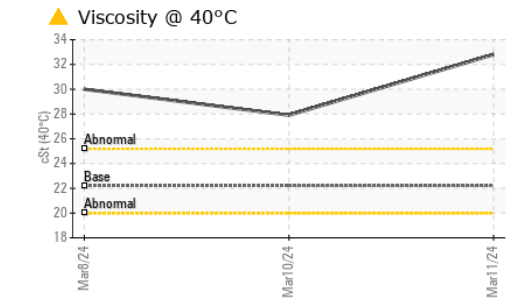
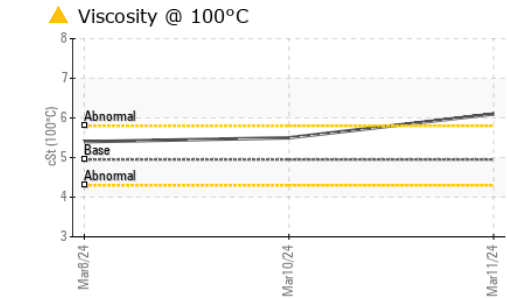
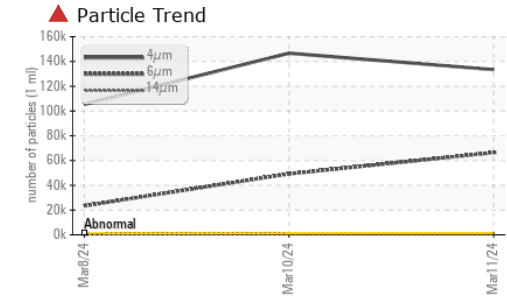
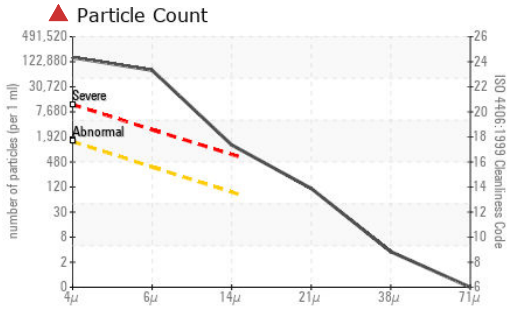
CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.05	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ	ASTM D8184*			<b>0</b>	0	---
Iron	ppm	ASTM D5185(m)	>20	<b>20</b>	29	9
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Lead	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<b>27</b>	13	<1
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>1</b>	0	4
Manganese	ppm	ASTM D5185(m)	1	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	0	<b>7</b>	6	10
Calcium	ppm	ASTM D5185(m)	50	<b>58</b>	52	71
Phosphorus	ppm	ASTM D5185(m)	330	<b>453</b>	394	313
Zinc	ppm	ASTM D5185(m)	430	<b>365</b>	385	401
Sulfur	ppm	ASTM D5185(m)	760	<b>3545</b>	2394	714
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

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

# OIL ANALYSIS REPORT



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>1300	▲ 133397	▲ 146692	▲ 105389	
Particles >6µm	ASTM D7647	>320	▲ 66386	▲ 49257	▲ 23345	
Particles >14µm	ASTM D7647	>80	▲ 1079	▲ 928	▲ 413	
Particles >21µm	ASTM D7647	>20	▲ 98	▲ 173	▲ 61	
Particles >38µm	ASTM D7647	>4	3	▲ 11	2	
Particles >71µm	ASTM D7647	>3	0	1	1	
Oil Cleanliness	ISO 4406 (c)	>17/15/13	▲ 24/23/17	▲ 24/23/17	▲ 24/22/16	

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	0.55	0.60	0.42

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	▲ 32.8	27.9	▲ 30.0
Visc @ 100°C	cSt	ASTM D7279(m)	4.95	▲ 6.1	5.5	5.4
Viscosity Index (VI)	Scale	ASTM D2270*	156	135	138	▲ 115

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0081138  
**Lab Number** : 02623728  
**Unique Number** : 5748847  
**Test Package** : IND 2 ( Additional Tests: KV100, PQ, VI )

**Blue Giant Equipment Corporation**  
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 T: (905)457-3900  
 F: (905)457-2313

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.