

## **OIL ANALYSIS REPORT**

Sample Rating Trend

WEAR

Machine Id EX0357 Component

Rear Hydraulic System Fluid PETRO CANADA HYDREX AW 46 (220 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. The filter change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. Please specify the component make and model with your next sample.

#### A Wear

Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

#### Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

#### Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. Viscosity of sample indicates oil is within SAE 20 range, advise investigate. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

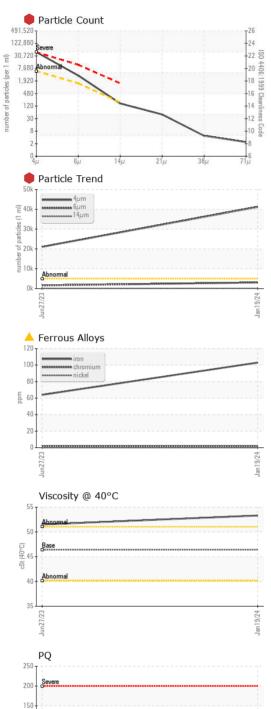
<b>'</b>			Jun2023	Jan2024		
SAMPLE INFORM	<b>NATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0092293	GFL0087350	
Sample Date		Client Info		19 Jan 2024	27 Jun 2023	
Machine Age	hrs	Client Info		20413	19957	
Oil Age	hrs	Client Info		19957	2000	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				SEVERE	ABNORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2
PQ		ASTM D8184*		5	0	
Iron	ppm	ASTM D5185(m)	>20	<u> </u>	<b>6</b> 4	
Chromium	ppm	ASTM D5185(m)	>10	2	2	
Nickel	ppm	ASTM D5185(m)	>10	0	0	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)		0	0	
Aluminum	ppm	ASTM D5185(m)	>10	1	<1	
Lead	ppm	ASTM D5185(m)	>10	<1	<1	
Copper	ppm	ASTM D5185(m)	>75	5	5	
Tin	ppm	ASTM D5185(m)	>10	<1	<1	
Antimony	ppm	ASTM D5185(m)		0	<1	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	20	16	
Barium	ppm	ASTM D5185(m)	0	0	0	
Molybdenum	ppm	ASTM D5185(m)	0	0	<1	
Manganese	ppm	ASTM D5185(m)	0	1	<1	
Magnesium	ppm	ASTM D5185(m)	0	9	8	
Calcium	ppm	ASTM D5185(m)	50	2334	2006	
Phosphorus	ppm	ASTM D5185(m)	330	415	460	
Zinc	ppm	ASTM D5185(m)	430	145	233	
Sulfur	ppm	ASTM D5185(m)	760	2603	2154	
Lithium	ppm	ASTM D5185(m)		<1	<1	
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	4	4	
Sodium	ppm	ASTM D5185(m)		2	3	
Potassium	ppm	ASTM D5185(m)	>20	3	3	



0 100 50

# **OIL ANALYSIS REPORT**

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FLUID CLEANLINESSmethodlimit/basecurrenthistory1history2Particles >4µmASTM D7647>5000411824 21040Particles >6µmASTM D7647>130030644 1624Particles >14µmASTM D7647>16014190Particles >21µmASTM D7647>1041Particles >38µmASTM D7647>1041Particles >71µmASTM D7647>320Oil CleanlinessISO 4406 (c)>19/17/1423/19/14A22/18/14VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONENONEYellow MetalscalarVisual*NONENONENONEYellow MetalscalarVisual*NONENONENONESittscalarVisual*NONENONENONESad/DiritscalarVisual*NONENONENONEAppearancescalarVisual*NORMLNORMLNORMLNORMLAppearancescalarVisual*NORMLNORMLNORMLNORMLAppearancescalarVisual*NORMLNORMLNORMLNORMLFree WaterscalarVisual*NORMLNORMLNORMLNORMLVisc@ 40°CcStASTM D7279m46.453.3 <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>							
Particles >6µm  ASTM D7647  >1300  ▲ 3064  ▲ 1624     Particles >14µm  ASTM D7647  >160  141  90     Particles >21µm  ASTM D7647  >40  42  28     Particles >38µm  ASTM D7647  >10  4  1     Particles >38µm  ASTM D7647  >10  4  1     Particles >71µm  ASTM D7647  >3  2  0     Oil Cleanliness  ISO 4406 (c)  >19/17/14  23/19/14  22/18/14     VISUAL  method  limit/base  current  history1  history2    White Metal  scalar  Visual*  NONE  NONE  NONE     Yellow Metal  scalar  Visual*  NONE  NONE      Sitt  scalar  Visual*  NONE  NONE  NONE     Sold/Dirit  scalar  Visual*  NORML  NORML  NORML     Appearance  scalar  Visual*  NORML  NORML	FLUID CLEANL	INESS	method	limit/base	current	history1	history2
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Particles >38μm  ASTM D7647  >10  4  1     Particles >71μm  ASTM D7647  >3  2  0     Oil Cleanliness  ISO 4406 (c)  >19/17/14  23/19/14  A 22/18/14     VISUAL  method  limit/base  current  history1  history2    White Metal  scalar  Visual*  NONE  NONE  NONE     Yellow Metal  scalar  Visual*  NONE  NONE  NONE     Yellow Metal  scalar  Visual*  NONE  NONE  NONE     Yellow Metal  scalar  Visual*  NONE  NONE  NONE     Precipitate  scalar  Visual*  NONE  NONE  NONE     Silt  scalar  Visual*  NONE  NONE  NONE     Sand/Dirt  scalar  Visual*  NORML  NORML  NORML     Appearance  scalar  Visual*  NORML  NORML  NORML     Free Water  s	Particles >14µm		ASTM D7647	>160	141	90	
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: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 720 - Lafleche - Landfill Laboratory CALA Sample No. : GFL0092293 Recieved : 24 Jan 2024 17125 Lafleche Road, Lab Number : 02610886 Diagnosed : 25 Jan 2024 Moose Creek, ON ISO 17025:2017 Accredited Laboratory Unique Number : 5719981 Diagnostician : Kevin Marson CA K0C 1W0 Test Package : MOB 1 (Additional Tests: PQ, PrtCount) Contact: Charles Bergeron To discuss this sample report, contact Customer Service at 1-800-268-2131. cbergeron@gflenv.com T: (613)538-4853 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. F: