

OIL ANALYSIS REPORT

Sample Rating Trend

ISO

Machine Id **100-048** Component Hydraulic System Fluid PETRO CANADA HYDREX AW 46 (--- GAL)

DIAGNOSIS

Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORM		method	limit/base	current	history1	history2	
			innibase				
Sample Number		Client Info		WC0920787			
Sample Date	h un	Client Info		19 Mar 2024			
Machine Age	hrs	Client Info		0			
Oil Age	hrs	Client Info		0			
Oil Changed		Client Info		Not Changd			
Sample Status				ATTENTION			
CONTAMINATION	N	method	limit/base	current	history1	history2	
Water		WC Method	>0.1	NEG			
WEAR METALS		method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	3			
Chromium	ppm	ASTM D5185(m)	>10	<1			
Nickel	ppm	ASTM D5185(m)	>10	0			
Titanium	ppm	ASTM D5185(m)		0			
Silver	ppm	ASTM D5185(m)		0			
Aluminum	ppm	ASTM D5185(m)	>10	0			
Lead	ppm	ASTM D5185(m)	>10	0			
Copper	ppm	ASTM D5185(m)		17			
Tin	ppm	ASTM D5185(m)	>10	0			
Antimony	ppm	ASTM D5185(m)		0			
Vanadium	ppm	ASTM D5185(m)		0			
Beryllium	ppm	ASTM D5185(m)		0			
Cadmium	ppm	ASTM D5185(m)		0			
ADDITIVES							
	maa				history1	history2	
Boron	ppm	ASTM D5185(m)	0	<1			
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	0	<1 <1			
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0	<1 <1 0			
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0	<1 <1 0 0			
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0	<1 <1 0 0 <1			
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 0 50	<1 <1 0 0 <1 123	 	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330	<1 <1 0 0 <1 123 515	 	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 0 50 330 430	<1 <1 0 0 <1 123 515 677	 		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330	<1 <1 0 <1 123 515 677 1233	 		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760	<1 <1 0 0 <1 123 515 677			
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760	<1 <1 0 <1 123 515 677 1233 <1 current	 		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760	<1 <1 0 0 <1 123 515 677 1233 <1 current <1			
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760	<1 <1 0 <1 123 515 677 1233 <1 current	 history1	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 50 330 430 760 Iimit/base >20	<1 <1 0 0 <1 123 515 677 1233 <1 current <1	 history1 	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 50 330 430 760 Iimit/base >20	<1 <1 0 0 <1 123 515 677 1233 <1 233 <1 <i>current</i> <1 <1	 history1	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760 Imit/base >20	<1 <1 0 0 <1 123 515 677 1233 <1 233 <1 current <1 <1 <1 <1	 history1 	 history2 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 50 330 430 760 imit/base >20 imit/base	<1 <1 0 0 <1 123 515 677 1233 <1 Current <1 <1 <1 <1 <1 <1 <1 <urrent <="" pre=""></urrent>	 history1 history1	history2 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760 760 20 20 20 20 20 20 20 20 20 20 20 20 20	<1 <1 0 0 <1 123 515 677 1233 <1 233 <1 <i>current</i> <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	 history1 history1 	 history2 history2 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760 760 imit/base >20 imit/base >20 imit/base >20 >20 20 20 20 20 20 20 20 20 20 20 20 20 2	<1 <1 0 0 <1 123 515 677 1233 <1 233 <1 <i>current</i> <1 <1 <1 <1 <1 <1 <1 5029 757	 history1 history1 history1	 history2 history2 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D76477 ASTM D7647	0 0 0 0 50 330 430 760 760 imit/base >20 imit/base >20 imit/base >20 >20 20 20 20 20 20 20 20 20 20 20 20 20 2	<1 <1 0 0 <1 123 515 677 1233 <1 <i>current</i> <1 <1 <1 <1 <1 <1 <1 <1 5029 757 22	 history1 history1	 history2 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 50 330 430 760 760 8 20 1 1 1 2 20 2 2 0 1 1 1 1 2 2 0 1 1 1 2 2 0 1 1 1 2 1 2	<1 <1 0 0 <1 123 515 677 1233 <1 0 0 <1 1233 <1 0 0 0 <1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	 history1 history1 history1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 50 330 430 760 760 8 20 1 1 1 2 20 2 2 0 1 1 1 1 2 2 0 1 1 1 2 2 0 1 1 1 2 1 2	<1 <1 0 0 <1 123 515 677 1233 <1 <1 <1 <1 <1 <1 5029 757 22 5 0 	 history1 history1		

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0.80 0.70 (B/H0,60 0.50 1.0,40 1.0,40 1.0,20

U port 0.10-0.00

OIL ANALYSIS REPORT

6k	rticle Trend	FLUID DEGRADA	TION	method	limit/base	current	history1	history2	
^{5k} - ²⁰⁰	ionnan 4μm 	Acid Number (AN)	mg KOH/g	ASTM D974*	0.70	0.62			
4k - 4k -	·····································	VISUAL		method	limit/base	current	history1	history2	
Jied 3k -		White Metal	scalar	Visual*	NONE	NONE			
lag 2k		Yellow Metal	scalar	Visual*	NONE	NONE			
		Precipitate	scalar	Visual*	NONE	NONE			
	9/24	Silt	scalar	Visual*	NONE	NONE			
Mar19/24	Mar19/24	Debris	scalar	Visual*	NONE	NONE			
Par	rticle Trend	Sand/Dirt	scalar	Visual*	NONE	NONE			
^{6k}		Appearance	scalar	Visual*	NORML	NORML			
음 ^{5k} - 역	roman 4 μm 6μm	Odor		Visual*	NORML	NORML			
	14μm	Emulsified Water	scalar	Visual*	>0.1	NEG			
(m 1) sappred 4k		Free Water	scalar	Visual*		NEG			
la 2k		FLUID PROPERT	IES	method	limit/base	current	history1	history2	
		Visc @ 40°C	cSt	ASTM D7279(m)	46.4	43.8			
Mar19/24	Mar19/24	SAMPLE IMAGES	3	method	limit/base	current	history1	history2	
Aci	d Number	Color					no image	no image	
(CHON BU) 30 0.40		Bottom					no image	no image	
0.10		GRAPHS							
Mar19/24	ţ.a î	Ferrous Alloys Particle Count							
Mar	79	10			491,52	491,520			
Vis	cosity @ 40°C	E 5-			122,88	0 - Severe		-24	
54 52 Abn					30,72			-22	
50	ooma	0 4			+ ≘ 7,68	Abnormal		20 😨	
0 48 Base	e	Mar1 9/24			Mar19/24			-20 ISO 4406:1999 Clean -16 Clean	
() 48 () 46 ts 44						1		1999	
42		Non-ferrous Metals	5		optied y			+16 Clean	
40 - Abn	normal	15 - copper						-14 ness	
38 +2	4 C	E 10-			and	D-		-12 Code	
Mar19/24	0	5				8-		-10	
_	-	0 0	*******		24	2		8	
		Mar1 9/24			Mar19/24				
		∠ Viscosity @ 40°C			2		14µ 21µ	38µ 71µ	
		55 -				Acid Number			
		Abnormal 50 Base			9.6		*****		
		± 45 - J			는 동 0.4	D -			
		40 - Abnormal			P 0.2	D			
		35 4			0.0 Acid	24+L		24 +	
		Mar19/24			Mar19/24	Mar19,		Mar19/24	
		: 5749448 : MOBCE contact Customer Servi of accreditation, (m) me	Recei Teste Diagn ce at 1-8 ethod mo	ved : 25 d : 26 nosed : 26 200-268-213 pdified, (e) te	5 Mar 2024 6 Mar 2024 6 Mar 2024 - W 1. 9 sted at exter	les Davis nal lab.	100 MAC V Contact:	AVATING LTD. NTOSH BLVD AUGHAN, ON CA L4K 4P3 Service Team .team@roni.ca T: F:	