

OIL ANALYSIS REPORT

Sample Rating Trend

ISO

Machine Id **210** 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	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		WC0899544			
Sample Date		Client Info		01 Mar 2024			
Machine Age	hrs	Client Info		0			
Oil Age	hrs	Client Info		0			
Oil Changed		Client Info		Not Changd			
Sample Status				ATTENTION			
CONTAMINATIO	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	0			
Nickel	ppm	ASTM D5185(m)	>10	<1			
Titanium	ppm	ASTM D5185(m)		0			
Silver	ppm	ASTM D5185(m)		<1			
Aluminum	ppm	ASTM D5185(m)	>10	1			
Lead	ppm	ASTM D5185(m)	>10	4			
Copper	ppm	ASTM D5185(m)		<1			
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			
	1- 1-	()		-			
ADDITIVES						history2	
ADDITIVES Boron	nnm	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	<1			
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	0	<1 0			
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0	<1 0 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 0 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 0	<1 0 0 0 5			
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 0 0 0 5 58	 	 	
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 0 50 330	<1 0 0 5 58 338	 		
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 50 330 430	<1 0 0 5 58 338 408			
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 0 50 330	<1 0 0 5 58 338 408 996	 		
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) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430	<1 0 0 5 58 338 408			
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 0 0 5 58 338 408 996 <1 current	 history1	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760	<1 0 0 5 58 338 408 996 <1 current 2			
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 0 50 330 430 760 limit/base >20	<1 0 0 5 58 338 408 996 <1 current 2 <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	<1 0 0 5 58 338 408 996 <1 current 2	 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 0 50 330 430 760 limit/base >20	<1 0 0 5 58 338 408 996 <1 current 2 <1	 history1	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon 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 limit/base >20	<1 0 0 5 58 338 408 996 <1 2 2 <1 2 1	 history1 	 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 imit/base >20 imit/base >20 imit/base	<1 0 0 5 5 8 338 408 996 <1 current 2 <1 2 <1 <1 <1 current	 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 imit/base >20 imit/base >20 imit/base	<1 0 0 5 58 338 408 996 <1 current 2 <1 2 <1 <1 <1 9217	 history1 history1 history1	 history2 history2 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 imit/base >20 imit/base >20 imit/base	<1 0 0 5 58 338 408 996 <1 <i>current</i> 2 <1 2 <1 <1 <i>current</i> 9217 706	 history1 history1	history2 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm 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 imit/base >20 imit/base >20 imit/base >20 imit/base	<1 0 0 5 58 338 408 996 <1 2 <1 2 <1 2 <1 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	 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 D76477 ASTM D76477 ASTM D7647	0 0 0 0 50 330 430 760 imit/base >20 imit/base >20 imit/base >20 i mit/base >20	<1 0 0 5 58 338 408 996 <1 current 2 <1 current 9217 706 17 5			
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 50 330 430 760 imit/base >20 imit/base >20 imit/base >20 i mit/base >20	<1 0 0 5 5 8 338 408 996 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	history1 history1		



OIL ANALYSIS REPORT

Particle Trend	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
4μm 3k	Acid Number (AN)	mg KOH/g	ASTM D974*	0.70	0.36		
k Aboomal	VISUAL		method	limit/base	current	history1	history2
Abnormal Brite	White Metal	scalar	Visual*	NONE	NONE		
2k -	Yellow Metal	scalar	Visual*	NONE	NONE		
	Precipitate	scalar	Visual*	NONE	NONE		
Marl/24	Silt	scalar	Visual*	NONE	NONE		
Ma	Debris	scalar	Visual*	NONE	NONE		
Particle Trend	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
κ	Odor Emulsified Water	scalar	Visual* Visual*	NORML >0.1	NORML NEG		
k	Free Water	scalar scalar	Visual*	>0.1	NEG		
Abnormal de				limit/booo			
k -	FLUID PROPER Visc @ 40°C			limit/base	current 43.8	history1	history2
24		cSt	ASTM D7279(m)				
Mar1/24 Mar1/24	SAMPLE IMAGE	5	method	limit/base	current	history1	history2
Acid Number	Color				none	no image	no image
0 - Base						0	0
0-							
J-	Bottom					no image	no image
0							
0-	GRAPHS						
	Ferrous Alloys				Particle Count		
Mar1/24	¹⁰			491,52			T ²⁶
Viscosity @ 40°C	E 5			122,88	0-		-24
4	ق. 5 nickel			30,72	Severe 0		-22
Abnormal	0	*****		- 7.68	0 Abnormal		-20 8
	Mar1/24			r1/2			19
8- Base				B ad 1.92	1		-18
12	Non-ferrous Meta	ls		48 garticles			-16
0 - Abnormal	copper			Jo Ja Ja Ja	0-		-14
124 +	ā 5-			2 a	0-	1	-12
Mar1/24					8 -		10
	0 1 1			/24	2		
	Mar1			Mar1/24	0		
	Viscosity @ 40°C				4 مۇ Acid Number	14μ 21μ	38µ 71µ
	55 Abnormal			6.6 (B)			
	So - Base Base 45 Abnormal			9.6	0		
	중 45 - Abnormal			1, 0.4 a 0.4 M 0.2	0-		
	40			- N P 0.2			
	354			Acid	74		
	Mar1/24			Mar1/24	Mar1/24		Mar1/24
CALA Laboratory Sample No.	: WearCheck - C8-117 : WC0899544 r : 02621116	5 Appleby Recei	ved :11	gton, ON L7 Mar 2024 2 Mar 2024	l 5H9 Roni/ir		AVATING LTD INTOSH BLVE AUGHAN, ON