

OIL ANALYSIS REPORT

Sample Rating Trend

ISO

Machine Id OE1025 Component

Hydraulic System Fluid PETRO CANADA HYDREX MV 46 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

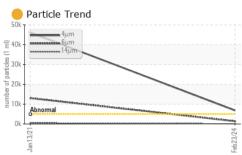
There is a light amount of silt (particulates < 14 microns in size) present in the oil.

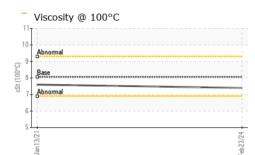
Fluid Condition

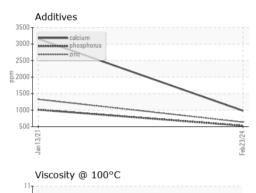
Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

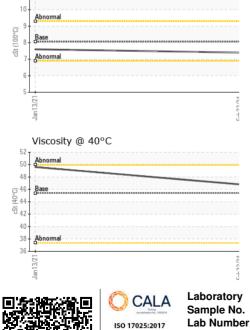
			Jan2021	Feb2024		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0080531	PC0036278	
Sample Date		Client Info		23 Feb 2024	13 Jan 2021	
Machine Age	hrs	Client Info		1506	715	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				ATTENTION	SEVERE	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METAL	.S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	2	3	
Chromium	ppm	ASTM D5185(m)		0	<1	
Nickel	ppm	ASTM D5185(m)	>10	<1	<1	
Titanium	ppm	ASTM D5185(m)	210	0	<1	
Silver	ppm	ASTM D5185(m)		0	0	
Aluminum		ASTM D5185(m)	>10	<1	<1	
Lead	ppm	ASTM D5185(m) ASTM D5185(m)	>10	<1	<1	
	ppm	. ,	>75	2	3	
Copper	ppm	ASTM D5185(m)				
Tin	ppm	ASTM D5185(m)	>10	0	0	
Antimony	ppm	ASTM D5185(m)		0	<1	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium				0 <1	0 <1	
Cadmium ADDITIVES	ppm	ASTM D5185(m) ASTM D5185(m) method	limit/base		<1 history1	
Cadmium ADDITIVES Boron	ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	0	<1 current 26	<1 history1 92	
Cadmium ADDITIVES Boron Barium	ppm ppm	ASTM D5185(m) ASTM D5185(m) method	0	<1 current 26 0	<1 history1	 history2
Cadmium ADDITIVES Boron	ppm ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	0	<1 current 26	<1 history1 92	 history2
Cadmium ADDITIVES Boron Barium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m)	0 0 0	<1 current 26 0	<1 history1 92 <1	 history2
Cadmium ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0	<1 current 26 0 0	<1 history1 92 <1 <1	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 1 0	<1 current 26 0 0 0	<1 history1 92 <1 <1 <1 <1	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium	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 1 0	<1 26 0 0 0 5	<1 <u>history1</u> 92 <1 <1 <1 18	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	0 0 1 0 50	<1 26 0 0 0 5 980	<1 history1 92 <1 <1 <1 18 3159	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 1 0 50 330	<1 26 0 0 0 5 980 528	<1 history1 92 <1 <1 <1 <1 18 3159 1012	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	0 0 1 0 50 330 430 760	<1 26 0 0 0 5 980 528 636	<1 history1 92 <1 <1 <1 <1 18 3159 1012 1328	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	0 0 1 0 50 330 430 760	<1 26 0 0 0 5 980 528 636 2443	<1 history1 92 <1 <1 <1 <1 18 3159 1012 1328 6212	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	0 0 1 0 50 330 430 760	<1 26 0 0 0 5 980 528 636 2443 <1	<1 history1 92 <1 <1 <1 18 3159 1012 1328 6212 <1	 history2 -
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 0 1 0 50 330 430 760	<1 26 0 0 5 980 528 636 2443 <1 current	<1 history1 92 <1 <1 <1 18 3159 1012 1328 6212 <1 history1	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 0 1 0 50 330 430 760	<1 26 0 0 0 5 980 528 636 2443 <1 current 4	<1 history1 92 <1 <1 <1 18 3159 1012 1328 6212 <1 kistory1 14	 history2 -
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Calcium Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 0 1 50 330 430 760 Iimit/base	<1 current 26 0 0 0 5 980 528 636 2443 <1 current 4 <1	<1 history1 92 <1 <1 <1 18 3159 1012 1328 6212 <1 2 <1 history1 14 4	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 0 1 0 50 330 430 760 limit/base >20	<1 current 26 0 0 0 5 980 528 636 2443 <1 current 4 <1 <1 <1	<1 history1 92 <1 <1 <1 18 3159 1012 1328 6212 <1 history1 14 4 1	 history2 history2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAM Silicon Sodium Potassium FLUID CLEAN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 0 1 1 50 330 430 760 760 imit/base >20 imit/base >5000	<1 current 26 0 0 0 5 980 528 636 2443 <1 current 4 <1 <1 current 6 8 2443 <1 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 history1 92 <1 <1 <1 <1 18 3159 1012 1328 6212 <1 history1 14 4 1 history1 ▲ 46188 	history2 history2 history2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 0 0 1 50 330 430 760 500 bimit/base >20 bimit/base >20 bimit/base >20 bimit/base	<1 current 26 0 0 0 5 980 528 636 2443 <1 current 4 <1 <1 current 4 6 1 3 0 0 0 5 980 528 6 3 6 2 4 3 6 3 6 2 4 3 6 3 5 5 5 5 5 5 5 5 5 5 5 5 5	<1 history1 92 1 1 1 3159 1012 1328 6212 1 history1 14 4 1 history1 ▲ 46188 ▲ 13066 	history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 1 50 330 430 760 760 1 imit/base >20 1 s20 1 imit/base >20 1 imit/base >20 1 imit/base >20	<1 current 26 0 0 0 5 980 528 636 2443 <1 current 4 <1 <1 current 4 6813 6813 1385 85	<1 history1 92 <1 <1 <1 18 3159 1012 1328 6212 <1 history1 14 4 1 history1 14 4 1 14 4 1 1328 1012 1328 6212 <1 1328 6212 <1 1328 6212 <1 1328 6212 <1 1328 6212 <1 1328 6212 <1 1328 6212 <1 1328 6212 <1 1328 6212 <1 1328 6212 <1 14 14 14 14 14 14 14	history2 history2 </td
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Potassium Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 1 0 50 330 430 760 20 limit/base >20 limit/base >20 limit/base >5000 >1300 >160 >40	<1 26 0 0 0 5 980 528 636 2443 <1 current 4 <1 current 4 <1 current 4 <1 current 0 0 0 5 28 636 2443 5 2443 5 2443 0 0 0 0 5 28 6 36 2443 6 36 24 24 24 24 21 21 21 21 21 21 21 21 21 21	<1 history1 92 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Paticles >4µm Particles >6µm Particles >14µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 1 50 330 430 760 760 imit/base >20 imit/base >20 imit/base >20 i mit/base >20 >100 >100	<1 current 26 0 0 5 980 528 636 2443 <1 current 4 <1 <1 current 6813 1385 85 27 4 	<1 history1 92 <1 <1 <1 18 3159 1012 1328 6212 <1 bistory1 14 4 1 history1 46188 495 491 4	history2 history2 history2 <
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Potassium Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 1 50 330 430 760 760 imit/base >20 imit/base >20 imit/base >20 i mit/base >20 >100 >100	<1 26 0 0 0 5 980 528 636 2443 <1 current 4 <1 current 4 <1 current 4 <1 current 0 0 0 5 28 636 2443 5 2443 5 2443 0 0 0 0 5 28 6 36 2443 6 36 24 24 24 24 21 21 21 21 21 21 21 21 21 21	<1 history1 92 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	history2 history2 history2 <











OIL ANALYSIS REPORT

	FLUID DEGRAD	DATION	method	limit/base	current	history1	history
	Acid Number (AN)	mg KOH/g	ASTM D974*	0.70	0.59	1.84	
	VISUAL		method	limit/base	current	history1	history
	White Metal	scalar	Visual*	NONE	NONE	NONE	
	Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
	Precipitate	scalar	Visual*	NONE	NONE	NONE	
/24	Silt	scalar	Visual*	NONE	NONE	NONE	
Feb23/24	Debris	scalar	Visual*	NONE	NONE	VLITE	
	Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
	Appearance	scalar	Visual*	NORML	NORML	NORML	
	Odor	scalar	Visual*	NORML	NORML	NORML	
	Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	
	Free Water	scalar	Visual*		NEG	NEG	
	FLUID PROPE	RTIES	method	limit/base	current	history1	history
	Visc @ 40°C	cSt	ASTM D7279(m)	45.4	46.8	49.6	
	Visc @ 100°C	cSt	ASTM D7279(m)	8.06	7.4	7.6	
Feb 23/24	Viscosity Index (VI)	Scale	ASTM D2270*	151	121	117	
	SAMPLE IMAG	iES	method	limit/base	current	history1	history
	Color						no image
Fdb 23/24	Bottom					no image	no image
Febő	GRAPHS						
	Ferrous Alloys			401.5	Particle Count		
	10 iron			491,5			
	E. 5 - nickel			122.8	Severe		
	0			30,7			
	13/21			Feb 23/24 (per 1 ml 6'1	80 Abnormal		
	Jan			Feb23/24 particles (per 1 m) 6' 6' 2	20-	•	
	Non-ferrous Metal	S			80-		-
P.C.	10 copper			ber of	20-		
C-1-23	E 5-			number	30 -		
	0				8-		
	Jan 13/21			Feb23/24	2-		
				Feb	0 4u 6u	14µ 21µ	38µ 71µ
	Viscosity @ 40°C			(B/			2012 111
	Abnormal			24	2.0		
	G 50 ⊕ 45 ³ 40 ⁴⁰ Abnormal			ber (m	.0 Base		
	3 40 Abnormal			Mumi			
				3/24	3/21		
4 C C T	Jan 13/2			Feb23/24 Ao	Jan 13/21		
LA Laboratory Sample No.	: WearCheck - C8-1175 : PC0080531 : 02619279	Appleby Recei Teste	ved : 01	gton, ON L Mar 2024 Mar 2024	7L 5H9 Green Infrastru	ucture and Partners Inc (GIPI) 151 F	286 · Shoring & Founda Ram Forest F Stouffville, (

Validity of results and interpretation are based on the sample and information as supplied.

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