

OIL ANALYSIS REPORT

Area ORIN CONTRACTORS Machine Id 146

Component Hydraulic System

PETRO CANADA HYDREX AW 46 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

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



Sample Rating Trend



NORMAL

SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0888441		
Sample Date		Client Info		04 Jan 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	J	method	limit/base	current	history1	history2
Water		WC Method	>0.075	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>32	12		
Chromium	ppm	ASTM D5185(m)	>9	2		
Nickel	ppm	ASTM D5185(m)	>5	0		
Titanium	ppm	ASTM D5185(m)	-	0		
Silver	ppm	ASTM D5185(m)		0		
Aluminum	ppm	ASTM D5185(m)	>9	2		
Lead	ppm	ASTM D5185(m)	>28	0		
Copper	ppm	ASTM D5185(m)	>50	4		
Tin	ppm	ASTM D5185(m)	>5	<1		
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		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current	history1	history2
	ppm ppm		0			
Boron		ASTM D5185(m)	0	<1		
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	0 0 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 36		
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 36 129	 	
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 36 129 405	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 0 50 330 430	<1 0 0 36 129 405 322		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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)	0 0 0 0 0 50 330 430	<1 0 0 36 129 405 322 717		
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 50 330 430 760	<1 0 0 36 129 405 322 717 <1		
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) ASTM D5185(m)	0 0 0 0 50 330 430 760	<1 0 0 36 129 405 322 717 <1	 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 0 50 330 430 760 Iimit/base >11	<1 0 0 36 129 405 322 717 <1 <i>current</i> 2	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 50 330 430 760 limit/base >11 >21	<1 0 0 36 129 405 322 717 <1 <i>current</i> 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 ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 50 330 430 760 Imit/base >11 >21 >20	<1 0 0 36 129 405 322 717 <1 2 2 <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 ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 50 330 430 760 imit/base >11 >21 >20 imit/base	<1 0 0 36 129 405 322 717 <1 current 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	ppm 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 >11 >21 >20 Imit/base >80000	<1 0 0 36 129 405 322 717 <1 <i>current</i> 2 <1 <1 <1 <i>current</i> 22719	 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 ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 0 50 330 430 760 760 imit/base >11 >21 >21 >20 imit/base >80000 >20000 >640	<1 0 0 36 129 405 322 717 <1 <u>current</u> 2 <1 <1 <u>current</u> 22719 5568	 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 ppm	ASTM D5185(m) ASTM D7647 ASTM D7647	0 0 0 0 50 330 430 760 760 imit/base >11 >21 >21 >20 imit/base >80000 >20000 >640	<1 0 0 36 129 405 322 717 <1 <i>current</i> 2 <1 <1 <1 2 2 <1 <1 <1 22719 5568 309	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS 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	0 0 0 50 330 430 760 imit/base >11 >21 >20 imit/base >80000 >20000 >640 >160	<1 0 0 36 129 405 322 717 <1 Current 2 <1 <1 Current 22719 5568 309 42	 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium PtUID CLEANLIN Particles >6µm Particles >14µm Particles >21µm 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	0 0 0 50 330 430 430 760 50 330 430 430 430 760 50 50 50 50 50 50 50 50 50 50 50 50 50	<1 0 0 36 129 405 322 717 <1 Current 2 <1 <1 Current 22719 5568 309 42 0	 history1 history1	 history2 history2

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Contact/Location: Service Team - RONVAU



OIL ANALYSIS REPORT

Particle Trend	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
ok Abnormal 4µm	Acid Number (AN)	mg KOH/g	ASTM D974*	0.70	0.37		
0k	VISUAL		method	limit/base	current	history1	history2
0k -	White Metal	scalar	Visual*	NONE	NONE		
k -	Yellow Metal	scalar	Visual*	NONE	NONE		
	Dracinitata	scalar	Visual*	NONE	NONE		
424		scalar	Visual*	NONE	NONE		
Jan 4/24	Silt Debris	scalar	Visual*	NONE	VLITE		
A sid Number	Sand/Dirt	scalar	Visual*	NONE	NONE		
Acid Number	Appearance	scalar	Visual*	NORML	NORML		
Base	Odor	scalar	Visual*	NORML	NORML		
Ŋ ; Ŋ ;	Emulsified Water	scalar	Visual*	>0.075	NEG		
)-	Free Water	scalar	Visual*		NEG		
D +	FLUID PROPER	TIES	method	limit/base	current	history1	history2
-	Visc @ 40°C	cSt	ASTM D7279(m)	46.4	42.5		
Jan 4/24	SAMPLE IMAGE	S	method	limit/base	current	history1	history2
Viscosity @ 40°C	Color					no image	no image
Base Base	Bottom					no image	no image
	GRAPHS						
Jan A/24	Ferrous Alloys			101 50	Searticle Count		20
<u>ب</u>	15 iron			491,52	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		26
Particle Trend	E home nickel			122,88	0 Abnormal		-24
4μm	5			30,72			-22
second se	0			7.00			-20
Δματοπολία 6/rm 14μrm	Jan4/24			Jan4/24			+20 +18
	Non-ferrous Meta	als		·데 48			-16
	¹⁰ T			12 12	n_		-14
	E c			umbe			-12
Jan 4/24	ā. 5-			3	D-		12
	0				8-		
	Jan4,/24			Jan 4/24	2-		-8
				βĻ	0 4μ 6μ	14µ 21µ	38µ 71µ
	Viscosity @ 40°C				Acid Number	45	· ·
	Abnormal			6.6 KOHYO	Base		
	50 + 9 45 - 8 3 40 Abnormal			E 0.4			
	경 40 - Abnormal			4.0 June 1.2 March 1.2 Mar	0		
	35						
	Jan4/24			Jan4/24	lan 4,/24		
Laboratory Sample No. Iso 17025:2017 Accredited Laboratory	r : 02609429	175 Apple Recieved Diagnos Diagnost	ed :17.	lington, ON L Jan 2024 Jan 2024 ⁄in Marson	.7L 5H9 RONI/IR (100 MAC \	AVATING LTI INTOSH BLV /AUGHAN, O CA L4K 4P : Service Tear