WEAR
CONTAMINATION
FLUID CONDITION

NORMAL NORMAL ABNORMAL



(123456789) Coal Yard Machine Id LIEBHERR A312 123456-1234

Component Hydraulic System

PETRO CANADA HYDREX MV ARCTIC 15 (75 LTR)

PETRO CANADA HYDREX MV		\:. <u> </u>					
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 2 test kits, this testkit includes Particle Count to determine the ISO cleanliness of the fluid.	Sample Number		Client Info		PC0010608		
	Sample Date		Client Info		01 Feb 2020		
	Machine Age	hrs	Client Info		18500		
	Oil Age	hrs	Client Info		1180		
	Filter Age	hrs	Client Info		1180		
	Oil Changed		Client Info		Not Changd		
	Filter Changed		Client Info		Not Changd		
	Sample Status				ABNORMAL		
WEAD							
WEAR	Iron	ppm	ASTM D5185(m)		0		
All component wear rates are normal.	Chromium	ppm	ASTM D5185(m)		0		
	Nickel	ppm	ASTM D5185(m)	>2	0		
	Titanium	ppm	ASTM D5185(m)		0		
	Silver	ppm	ASTM D5185(m)		0		
	Aluminum	ppm	ASTM D5185(m)		0		
	Lead	ppm	ASTM D5185(m)	>3	<1		
	Copper	ppm	ASTM D5185(m)		0		
	Tin	ppm	ASTM D5185(m)	>2	0		
	Vanadium	ppm	ASTM D5185(m)		0		
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>10	<1		
There is no indication of any contamination in the component(unconfirmed).	Potassium	ppm	ASTM D5185(m)	>20	0		
	Water	1-1-	WC Method	>0.1	NEG		
	Silt	scalar	Visual*	NONE	NONE		
	Debris	scalar	Visual*	NIONIE			
		Journal	visuai	NONE	NONE		
	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Sand/Dirt Appearance						
		scalar	Visual*	NONE	NONE		
	Appearance	scalar scalar scalar	Visual* Visual*	NONE NORML	NONE NORML		
EL LUD CONDITION	Appearance Odor Emulsified Water	scalar scalar scalar scalar	Visual* Visual* Visual* Visual*	NONE NORML	NONE NORML NORML NEG		
FLUID CONDITION	Appearance Odor Emulsified Water Sodium	scalar scalar scalar scalar ppm	Visual* Visual* Visual* Visual* ASTM D5185(m)	NONE NORML NORML >0.1	NONE NORML NORML NEG		
Viscosity of sample indicates oil is within ISO 32 range, advise	Appearance Odor Emulsified Water Sodium Boron	scalar scalar scalar scalar ppm	Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m)	NONE NORML NORML >0.1	NONE NORML NORML NEG 0	 	
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in	Appearance Odor Emulsified Water Sodium Boron Barium	scalar scalar scalar scalar ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	NONE NORML NORML >0.1 0 0	NONE NORML NORML NEG 0 0	 	
Viscosity of sample indicates oil is within ISO 32 range, advise	Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	scalar scalar scalar scalar ppm ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	NONE NORML NORML >0.1 0 0 0	NONE NORML NORML NEG 0 0 0	 	
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in	Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	scalar scalar scalar scalar ppm ppm ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	NONE NORML NORML >0.1	NONE NORML NORML NEG 0 0 0 0	 	
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in	Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar scalar scalar scalar ppm ppm ppm ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	NONE NORML NORML >0.1 0 0 0 0	NONE NORML NORML NEG 0 0 0 0 0	 	
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in	Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m)	NONE NORML NORML >0.1 0 0 0 0 0 50	NONE NORML NORML NEG 0 0 0 0 0 56	 	
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in	Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m)	NONE NORML NORML >0.1 0 0 0 0 0 50 330	NONE NORML NORML NEG 0 0 0 0		
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in	Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m)	NONE NORML NORML >0.1 0 0 0 0 0 50 330 430	NONE NORML NORML NEG 0 0 0 0 <1 56 369 469		
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in	Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m)	NONE NORML NORML >0.1 0 0 0 0 0 50 330 430 760	NONE NORML NORML NEG 0 0 0 0 <1 56 369 469 852		
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in	Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	Visual* Visual* Visual* Visual* ASTM D5185(m)	NONE NORML NORML >0.1 0 0 0 0 0 50 330 430 760 13.6	NONE NORML NORML NEG 0 0 0 0 <1 56 369 469		

Viscosity Index (VI) Scale ASTM D2270* 394





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

Lab Number : 02279779

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : PC0010608

Unique Number : 4851018 Test Package : MOB 1 (Additional Tests: KV100, VI)

Received : 02 Feb 2020 **Tested** : 16 Apr 2019 Diagnosed

: 03 Feb 2020 - Kevin Marson

Contact: Jim Smith jim.smith@abcmanufacturing.com T: (311)555-1212 F: (311)555-1313

555 NORTH SERVICE ROAD EAST

To discuss this sample report, contact Customer Service at 1-800-268-2131. 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.

Detroit,

US 76100

ABC Manufacturing