

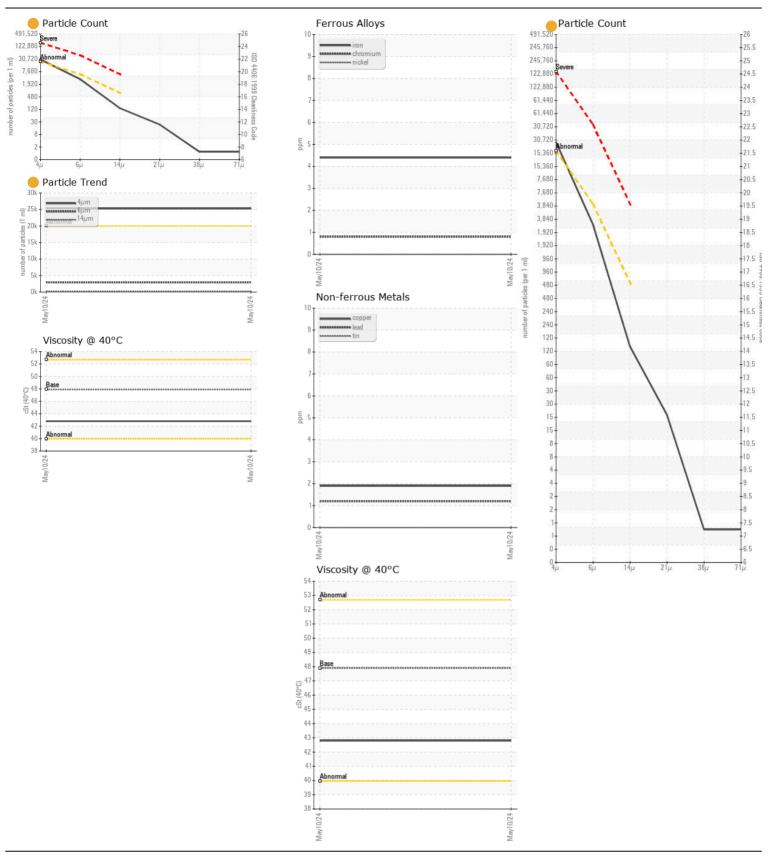


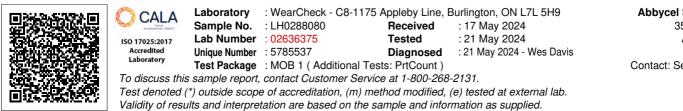
LIEBHERR L566 077757-1758

Hydraulic System

PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (--- GAL)

Test UOM Method United History1 History2 We recommend you service the filters on this component. Resample 2ne Client thrio 10 May 202							<u> </u>	
We recommend you service the lifters on this component. Resample to the next service interval to monitor. UH028000 1.0 UH02800 1.0 <thuh02800 1.0<="" th=""> UH02800 1.0</thuh02800>	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
the next service interval to monitor. Simple bala Machine Age Third into into into into into into into into		Sample Number		Client Info		LH0288080		
Machine Age Ints Clind Into SS6 Image Image Oil Age Ints Clind Into 0 Image Image Filter Age Ints Clind Into 0 Image Image Oil Changed Clind Into NXA Image Image Image Sample Status Time Into NXA Image Image Image All component wear rates are normal. Image		Sample Date		Client Info		10 May 2024		
Filter Age hrs Client Info 0 Oil Changed Client Info No Change WEAR Iron ppm ATIONSING >-0 All component wear rates are normal. Iron ppm ATIONSING >-0 Nickel ppm ASIMUSING >10 0 Silver ppm ASIMUSING >10 0 All component wear rates are normal. Nickel ppm ASIMUSING >10 0 Nickel ppm ASIMUSING 0 Quandum ppm ASIMUSING 0 0 Tim ppm ASIMUSING 1 1	the next service interval to monitor.	Machine Age	hrs	Client Info		556		
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Filter Ohanged Client Info NA		Filter Age	hrs	Client Info		0		
Sample Status ATTENTION n n WEAR Iron ppm ASTM DSISS 20 4 1 1 All component wear rates are normal. Iron ppm ASTM DSISS 1.0 0 1 1 Nickel ppm ASTM DSISS 10 0 1		Oil Changed		Client Info		Not Changd		
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All component wear rates are normal. Chromium ppm ASIN DISISM >10 <1		Sample Status				ATTENTION		
All component wear rates are normal. Chromium ppm ASIN DISISM >10 <1								
All component wear rates are normal. Nickel ppm #X10058(m) 10 0 Tanium ppm #X10058(m) 0 All winium ppm #X10058(m) 0 All winium ppm #X10058(m) >10 1 Copper ppm #X10058(m) >10 0 Vandum ppm #X10058(m) >0 0 Velow Metal scalar Visual* NONE NONE Patcles >1 #10 issa Value Value ASTM 07647 >500 20 <t< th=""><th>WEAR</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	WEAR							
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Silver pp ASTU 0515(m) 0 Aluminum pp ASTU 0515(m) -0 Copper pp ASTU 0515(m) -70 2 Copper pp ASTU 0515(m) -70 2 Vanadium ppm ASTU 0515(m) -70 Vanadium ppm ASTU 0515(m) -70 Vallow Metal scalar Visual NONE NONE Vallow Metal scalar Visual NONE NONE Patricles -Stym ASTM 0585(m) -20 1 Patricles -Stym ASTM 0784 Patricles -Stym ASTM 0784					>10			
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Yeilow Metal scalar Visual* NONE CONTAMINATION ppm ASTM D5185m >20 1 Drese is a light amount of silt (particulates < 14 microns in size) pre ASTM D5185m >20 1 Particles >4µm ASTM D7647 >5000 225283 Particles >4µm ASTM D7647 >5000 225283 Particles >4µm ASTM D7647 >5000 225283 Particles >4µm ASTM D7647 >640 120 Particles >4µm ASTM D7647 >10 1 Particles >71µm ASTM D7647 >10 1 Sitic on a scalar Visual* NONE NONE Sitic scalar Visual* NONE NONE Sitic scalar Visual* NONE NONE <th></th> <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th>						-		
CONTAMINATION Silicon ppm ASTM D5185(m) >20 1 There is a light amount of silt (particulates < 14 microns in size) Potassium ppm ASTM D5185(m) >20 1 Water WC Method >0.1 NEG Particles >6µum ASTM D5747 >6000 2919 Particles >14µm ASTM D7647 >6000 201 Particles >14µm ASTM D7647 >600 20 Particles >21µm ASTM D7647 >100 1 Particles >30µm ASTM D7647 >100 1 Particles >71µm ASTM D7647 >100 1 Oil Cleantiness ISO 4406 (c) 211916 Sard/D1t scalar Visual* NONE NONE Soldware scalar Visual* </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
Potassium ppm ASTM D518(m) 2.00 1 Water Water WC Method >.0.1 NEG Water Water WC Method >.0.1 NEG Particles >4µm ASTM D7647 >5000 2919 Particles >4µm ASTM D7647 >640 120 Particles >1µm ASTM D7647 >640 1 Particles >71µm ASTM D7647 >640 1 Particles >71µm ASTM D7647 >640 1 Particles >71µm ASTM D7647 >10 1 Sitt scalar Visual* NONE VLITE Sitt scalar Visual* NORM NORM Sodium scalar Visual* NORM NORM Indeisfed Wate		Yellow Metal	scalar	Visual*	NONE	NONE		
Potassium ppm ASTM D518(m) 2.00 1 Water Water WC Method >.0.1 NEG Water Water WC Method >.0.1 NEG Particles >4µm ASTM D7647 >5000 2919 Particles >4µm ASTM D7647 >640 120 Particles >1µm ASTM D7647 >640 1 Particles >71µm ASTM D7647 >640 1 Particles >71µm ASTM D7647 >640 1 Particles >71µm ASTM D7647 >10 1 Sitt scalar Visual* NONE VLITE Sitt scalar Visual* NORM NORM Sodium scalar Visual* NORM NORM Indeisfed Wate	CONTAMINATION	Silioon	nnm		. 20	4		
There is a light amount of silt (particulates < 14 microns in size) Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >20000 •25263 Particles >4µm ASTM D7647 >5000 2019 Particles >14µm ASTM D7647 >640 120 Particles >21µm ASTM D7647 >40 1 Oli Cleantiness Scalar Visual* NONE NONE Silt scalar Visual* NONE NORM Solur scalar Visual* NORM NORM Debris scalar Visual*	CONTAMINATION							
Present in the oil. Particles >4µm ASTM D7647 >2001 C+C Particles >6µm ASTM D7647 >5000 2919 Particles >6µm ASTM D7647 >6400 120 Particles >6µm ASTM D7647 >100 200 Particles >2µm ASTM D7647 >10 1 Particles >38µm ASTM D7647 >10 1 Particles >71µm ASTM D7647 >0 1 Particles >71µm ASTM D7647 >00 1 Oil Cleantiness ISO 4406 (c) 21191/14 Sand/Diri scalar Visual* NONE NONE Appearance scalar Visual* NORM NORM Molydeenum ppm ASTM D76550 0 0 <th>There is a light amount of silt (particulates < 14 microns in size)</th> <th></th> <th>ppiii</th> <th>1 / /</th> <th></th> <th></th> <th></th> <th></th>	There is a light amount of silt (particulates < 14 microns in size)		ppiii	1 / /				
Particles >6µm ASTM D7647 >5000 2919 Particles >14µm ASTM D7647 >640 120 Particles >21µm ASTM D7647 >160 20 Particles >38µm ASTM D7647 >100 1 Particles >1µm ASTM D7647 >10 1 Particles >38µm StatM D7647 >10 1 Particles >38µm ASTM D7647 >10 1 Particles >38µm ASTM D7647 >10 1 Particles >38µm Scalar Visual* NONE NONE Silt scalar Visual* NONE NONE Sand/Dir scalar Visual* NONE NORML Appearance scalar Visual* NORML NORML Molybdenum ppm ASTM D585m 0 <1	present in the oil.							
Particles >14µm ASTM D7647 >640 120 Particles >21µm ASTM D7647 >160 20 Particles >38µm ASTM D7647 >100 1 Particles >38µm ASTM D7647 >100 1 Particles >71µm ASTM D7647 >100 1 Oil Cleantiness IS0 4406 (s) 2/19/16 2/219/14 Silt scalar Visual* NONE NONE Sold ODiri scalar Visual* NONE NONE Odor scalar Visual* NORM NORM Codor scalar Visual* NORM NORM Emulsified Water scalar Visual* NORM NORM Boron ppm ASTM D585m 0 Molybdenum pm ASTM D585m 0 <								
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Particles >71µm ASTM D7647 >10 1 Oil Cleanliness ISO 4406 (c) >21/19/16 •22/19/14 Silt scalar Visual* NONE NONE Silt scalar Visual* NONE NONE Sand/Dirl scalar Visual* NONE NONE Appearance scalar Visual* NORH NORH Odor scalar Visual* NORH NORH Britine bilistice/bale for scalar Visual* NORH Molybdenum ppm ASTM D5185(m)								
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Emulsified WaterscalarVisual*>0.1NEGFLUID CONDITIONSodiumppmASTM D5185(m)<1BoronppmASTM D5185(m)0<1BariumppmASTM D5185(m)0<1MolybdenumppmASTM D5185(m)00MaganeseppmASTM D5185(m)00MagnesiumppmASTM D5185(m)05CalciumppmASTM D5185(m)108666PhosphorusppmASTM D5185(m)658ZincppmASTM D5185(m)850658SulfurppmASTM D5185(m)16002433		••						
FLUID CONDITION Sodium ppm ASTM D5185(m) <1								
Boron ppm ASTM D5185(m) 0 <1								
Boron ppm ASTM D5185(m) 0 <1	FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		<1		
Molybdenum ppm ASTM D5185(m) O O O Manganese ppm ASTM D5185(m) 1 O Magnesium ppm ASTM D5185(m) 1 O Calcium ppm ASTM D5185(m) 100 8666 Phosphorus ppm ASTM D5185(m) 670 5600 Zinc ppm ASTM D5185(m) 850 6588 Sulfur ppm ASTM D5185(m) 1600 2433		Boron	ppm	ASTM D5185(m)	0	<1		
Manganesse ppm ASTM D5185(m) 1 0 Magnesium ppm ASTM D5185(m) 0 5 Calcium ppm ASTM D5185(m) 100 866 Phosphorus ppm ASTM D5185(m) 670 560 Zinc ppm ASTM D5185(m) 850 658 Sulfur ppm ASTM D5185(m) 1600 2433	I he condition of the oil is acceptable for the time in service.	Barium	ppm	ASTM D5185(m)	0	0		
Magnesium ppm ASTM D5185(m) 0 5 Calcium ppm ASTM D5185(m) 100 866 Phosphorus ppm ASTM D5185(m) 670 560 Zinc ppm ASTM D5185(m) 850 658 Sulfur ppm ASTM D5185(m) 1600 2433		Molybdenum	ppm	ASTM D5185(m)	0	0		
Calcium ppm ASTM D5185(m) 100 866 Phosphorus ppm ASTM D5185(m) 670 560 Zinc ppm ASTM D5185(m) 850 658 Sulfur ppm ASTM D5185(m) 1600 2433		Manganese	ppm	ASTM D5185(m)	1	0		
Calcium ppm ASTM D5185(m) 100 866 Phosphorus ppm ASTM D5185(m) 670 560 Zinc ppm ASTM D5185(m) 850 658 Sulfur ppm ASTM D5185(m) 1600 2433		Magnesium	ppm	ASTM D5185(m)	0	5		
Phosphorus ppm ASTM D5185(m) 670 560 Zinc ppm ASTM D5185(m) 850 658 Sulfur ppm ASTM D5185(m) 1600 2433		Calcium		ASTM D5185(m)	100	866		
Sulfur ppm ASTM D5185(m) 1600 2433		Phosphorus	ppm	ASTM D5185(m)	670	560		
		Zinc	ppm	ASTM D5185(m)	850	658		
Visc @ 40°C cSt ASTM D7279(m) 47.9 42.8		Sulfur	ppm	ASTM D5185(m)	1600	2433		
		Visc @ 40°C	cSt	ASTM D7279(m)	47.9	42.8		





Abbycel Substrate Ltd. 3545 Ross Road Abbotsford, BC CA V4X 1M6 Contact: Service Manager

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Submitted By: ? Page 2 of 2