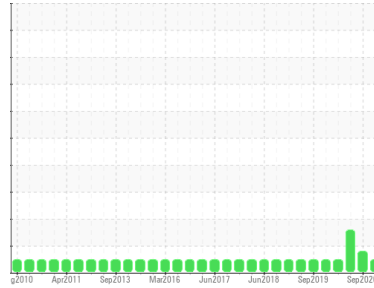




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
0351-2 HILLE #5 MILL POWER PACK
 Component
Hydraulic System
 Fluid
MONARCH PREMIUM HYDRAULIC OIL AW R&O 46 (4 LTR)

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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0378097	WC0389291	WC940834
Sample Date	Client Info		25 Sep 2023	28 Sep 2020	07 Jul 2020
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	ATTENTION	ATTENTION

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	12	10	10
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>20	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)		<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>20	5	6	5
Copper	ppm	ASTM D5185(m)	>20	17	▲ 34	▲ 33
Tin	ppm	ASTM D5185(m)	>20	7	3	3
Antimony	ppm	ASTM D5185(m)		0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	<1	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		2	<1	<1
Barium	ppm	ASTM D5185(m)		<1	<1	0
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)		30	15	10
Calcium	ppm	ASTM D5185(m)		105	45	40
Phosphorus	ppm	ASTM D5185(m)		410	415	398
Zinc	ppm	ASTM D5185(m)		452	444	428
Sulfur	ppm	ASTM D5185(m)		1334	1173	1168
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	1	1	1
Sodium	ppm	ASTM D5185(m)		4	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	1

FLUID CLEANLINESS

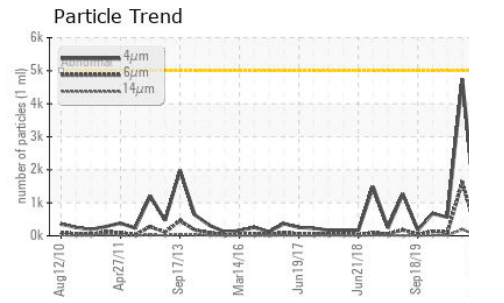
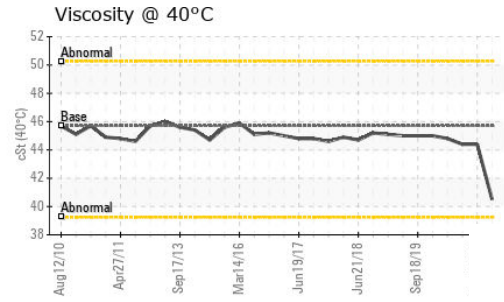
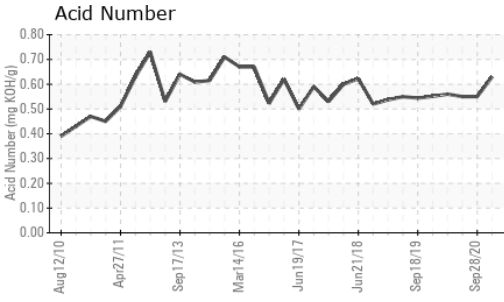
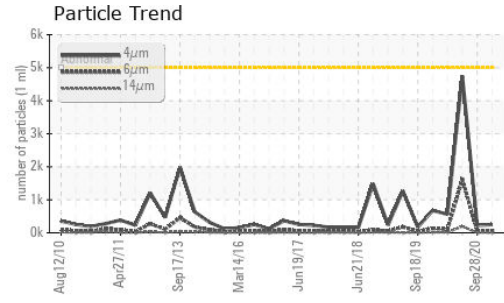
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	248	224	4741
Particles >6µm	ASTM D7647	>1300	65	54	▲ 1625
Particles >14µm	ASTM D7647	>160	4	6	▲ 193
Particles >21µm	ASTM D7647	>40	2	2	55
Particles >38µm	ASTM D7647	>10	1	0	2
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	15/13/9	15/13/10	▲ 19/18/15

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.63	0.55	0.55



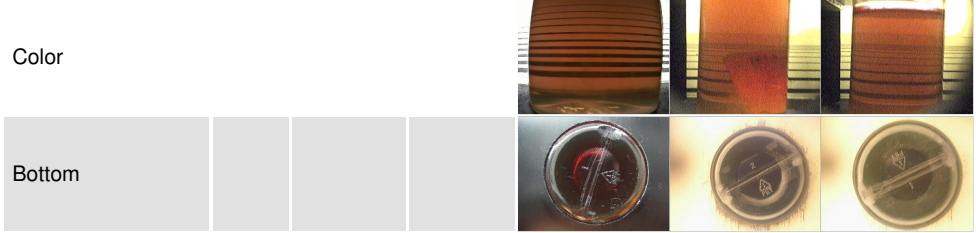
OIL ANALYSIS REPORT



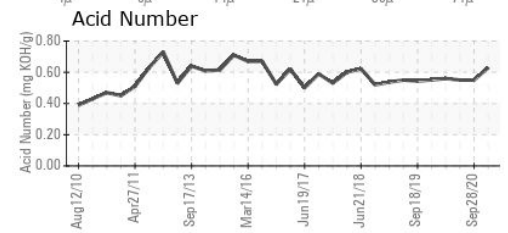
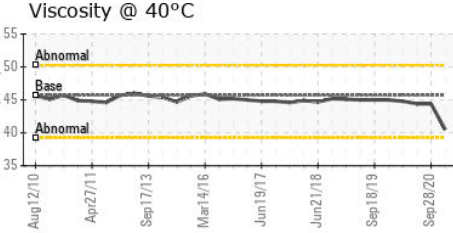
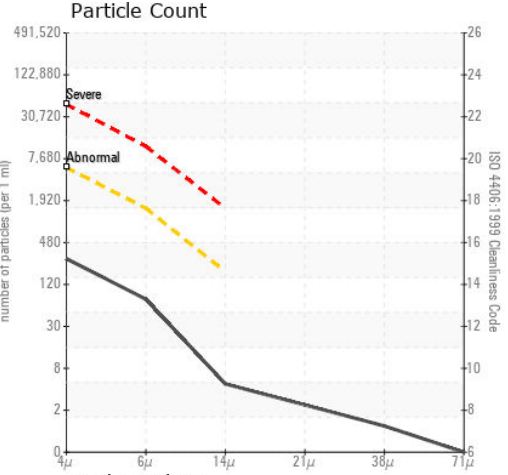
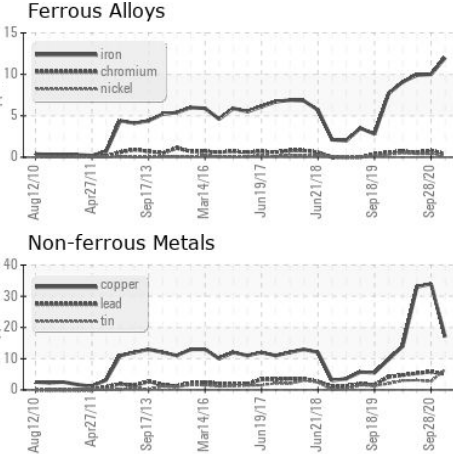
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	45.7	40.5	44.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0378097
Lab Number : 02586798
Unique Number : 5655864
Test Package : IND 2 (Additional Tests: TAN Man)

HENDRICKSON CANADA LTD.
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 sbhatt@hendrickson-intl.com
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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.