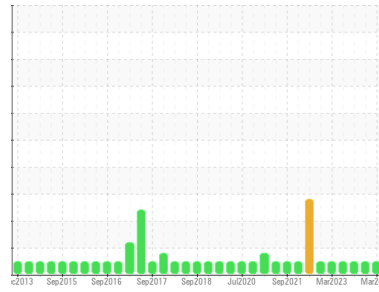




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

## 0038 HILLE 1 MILL POWER PACK

Component

**Hydraulic System**

Fluid

**MONARCH PREMIUM HYDRAULIC OIL AW R&O 46 (--- GAL)**

### DIAGNOSIS

#### Recommendation

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

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	<b>WC0487123</b>	WC0378077	WC0487124
Sample Date	Client Info	<b>28 Mar 2024</b>	20 Dec 2023	25 Sep 2023
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

### CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.05	<b>NEG</b>	NEG	NEG

### WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >20	<b>9</b>	10	11
Chromium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m) >20	<b>4</b>	6	6
Copper	ppm	ASTM D5185(m) >20	<b>11</b>	11	11
Tin	ppm	ASTM D5185(m) >20	<b>5</b>	4	5
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

### ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	1
Barium	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	<b>28</b>	37	30
Calcium	ppm	ASTM D5185(m)	<b>80</b>	92	88
Phosphorus	ppm	ASTM D5185(m)	<b>410</b>	437	413
Zinc	ppm	ASTM D5185(m)	<b>459</b>	476	466
Sulfur	ppm	ASTM D5185(m)	<b>1135</b>	1339	1291
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

### CONTAMINANTS

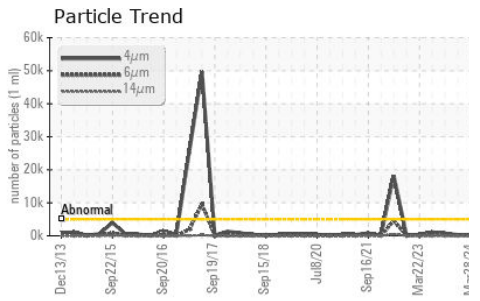
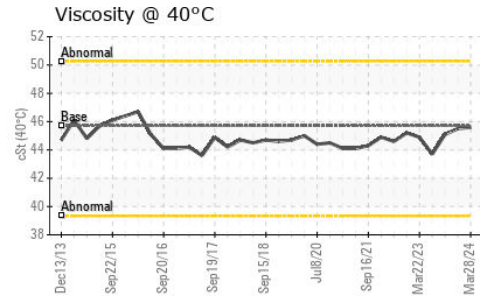
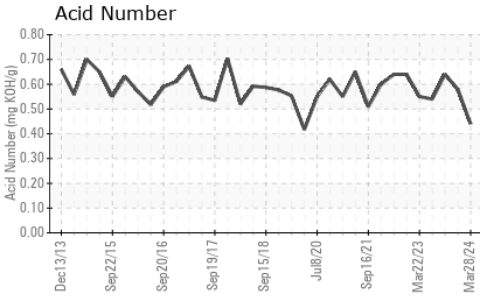
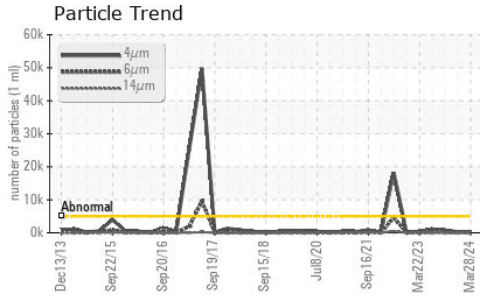
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >15	<b>0</b>	<1	1
Sodium	ppm	ASTM D5185(m)	<b>&lt;1</b>	2	3
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	0	0

### FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	<b>171</b>	333	784
Particles >6µm	ASTM D7647 >1300	<b>43</b>	61	197
Particles >14µm	ASTM D7647 >160	<b>5</b>	4	12
Particles >21µm	ASTM D7647 >40	<b>4</b>	1	3
Particles >38µm	ASTM D7647 >10	<b>1</b>	1	1
Particles >71µm	ASTM D7647 >3	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	<b>15/13/10</b>	16/13/9	17/15/11



# OIL ANALYSIS REPORT

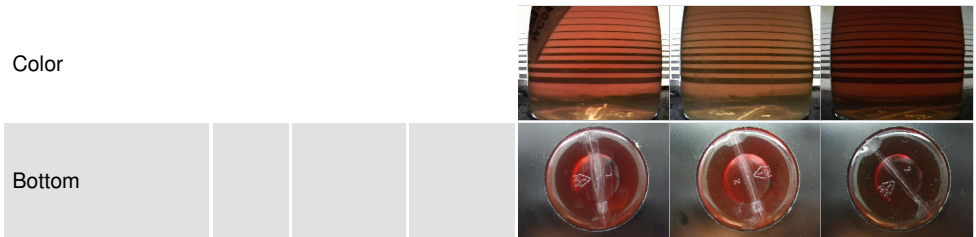


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		<b>0.44</b>	0.58	0.64

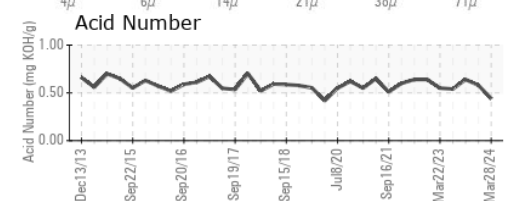
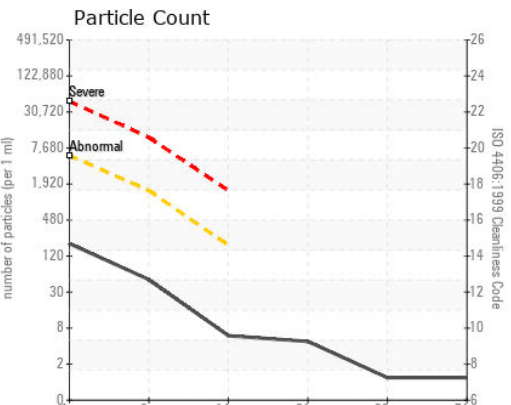
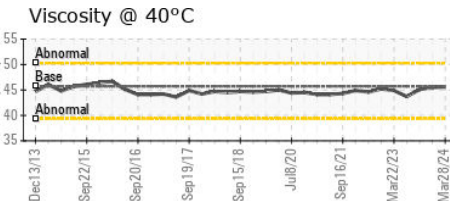
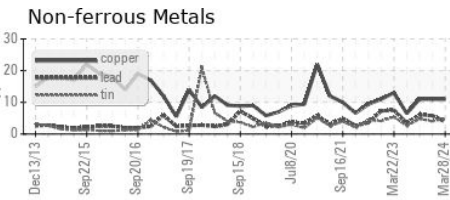
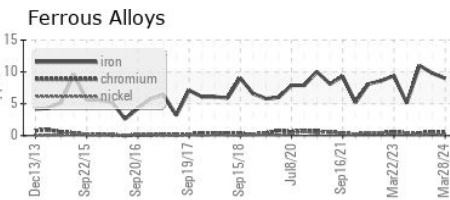
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	45.7	<b>45.6</b>	45.5	45.1

## SAMPLE IMAGES



## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0487123  
**Lab Number** : 02626420  
**Unique Number** : 5759552  
**Test Package** : IND 2  
**Received** : 03 Apr 2024  
**Tested** : 08 Apr 2024  
**Diagnosed** : 08 Apr 2024 - Wes Davis

**HENDRICKSON CANADA LTD.**  
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 Contact: Sandeep Bhatt  
 sbhatt@hendrickson-intl.com  
 T: (519)273-8707  
 F: (519)271-3103

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.