



OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area

[127063]

Machine Id

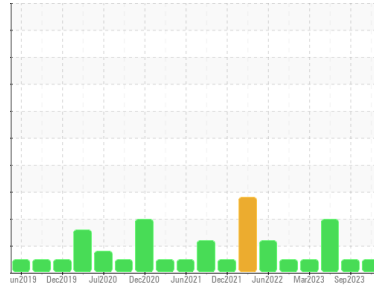
0964-4 HILLE 2 MILL POWER PACK

Component

Hydraulic System

Fluid

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



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	WC0378078	WC0378096	WC0378090
Sample Date	Client Info	21 Dec 2023	25 Sep 2023	28 Jun 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	ATTENTION

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >20	11	10	7
Chromium	ppm ASTM D5185(m) >20	2	1	1
Nickel	ppm ASTM D5185(m) >20	<1	0	<1
Titanium	ppm ASTM D5185(m)	0	0	0
Silver	ppm ASTM D5185(m)	0	<1	0
Aluminum	ppm ASTM D5185(m) >20	<1	<1	<1
Lead	ppm ASTM D5185(m) >20	4	4	2
Copper	ppm ASTM D5185(m) >20	13	13	12
Tin	ppm ASTM D5185(m) >20	3	4	2
Antimony	ppm ASTM D5185(m)	0	0	0
Vanadium	ppm ASTM D5185(m)	0	0	0
Beryllium	ppm ASTM D5185(m)	0	0	0
Cadmium	ppm ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m)	<1	<1	<1
Barium	ppm ASTM D5185(m)	0	<1	0
Molybdenum	ppm ASTM D5185(m)	0	0	0
Manganese	ppm ASTM D5185(m)	<1	<1	<1
Magnesium	ppm ASTM D5185(m)	15	14	4
Calcium	ppm ASTM D5185(m)	42	43	37
Phosphorus	ppm ASTM D5185(m)	383	382	381
Zinc	ppm ASTM D5185(m)	406	425	394
Sulfur	ppm ASTM D5185(m)	1205	1158	975
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)	1	2	1
Potassium	ppm ASTM D5185(m) >20	0	0	<1

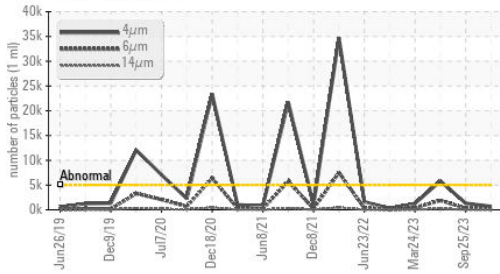
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	699	1328	▲ 5803
Particles >6µm	ASTM D7647 >1300	187	330	▲ 1885
Particles >14µm	ASTM D7647 >160	12	15	▲ 225
Particles >21µm	ASTM D7647 >40	2	3	▲ 63
Particles >38µm	ASTM D7647 >10	0	1	4
Particles >71µm	ASTM D7647 >3	0	0	1
Oil Cleanliness	ISO 4406 (c) >19/17/14	17/15/11	18/16/11	▲ 20/18/15

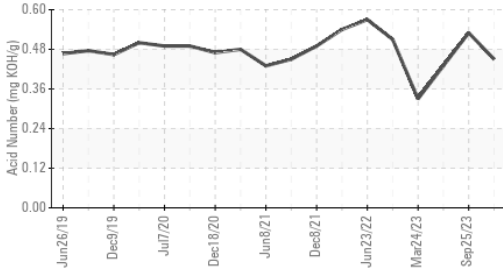


OIL ANALYSIS REPORT

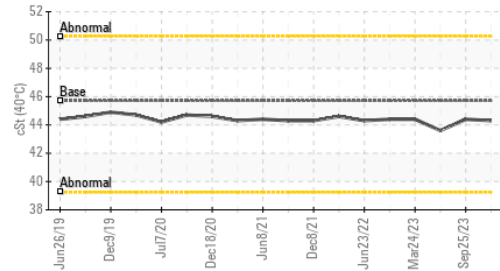
Particle Trend



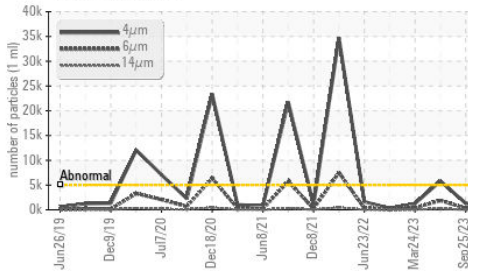
Acid Number



Viscosity @ 40°C



Particle Trend



FLUID DEGRADATION method limit/base current history1 history2

Acid Number (AN) mg KOH/g ASTM D974* **0.45** 0.53 0.43

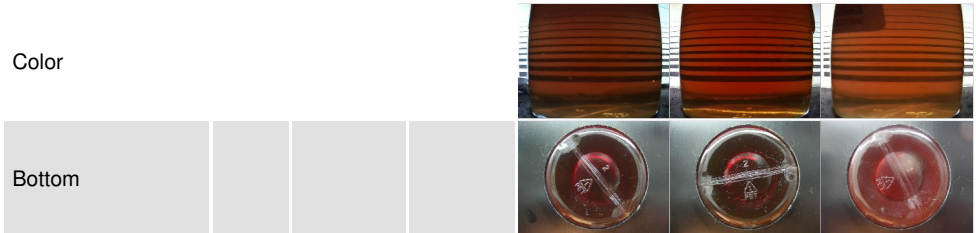
VISUAL method limit/base current history1 history2

White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

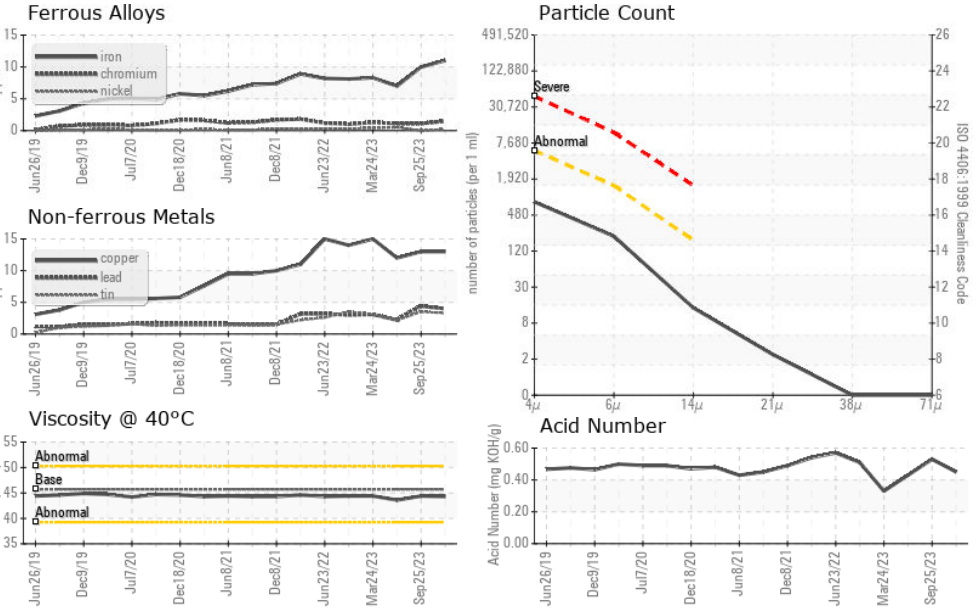
FLUID PROPERTIES method limit/base current history1 history2

Visc @ 40°C cSt ASTM D7279(m) 45.7 **44.3** 44.4 43.6

SAMPLE IMAGES method limit/base current history1 history2



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
 Sample No. : WC0378078
 Lab Number : 02606551
 Unique Number : 5707637
 Test Package : IND 2

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 STRATFORD, ON
 CA N5A 7X1
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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.