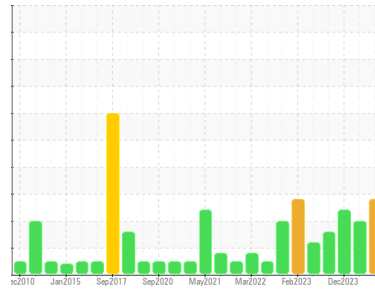




OIL ANALYSIS REPORT

Sample Rating Trend



Area
System 71 - Main Power Generation
 Machine ID
Z-7101B Hydraulic Start Oil Train B
 Component
Hydraulic System
 Fluid
IRVING HYDRAULIC OIL LP 32 (290 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear

Lead ppm levels are abnormal.

Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

Fluid Condition

Viscosity of sample indicates oil is within ISO 22 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. 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	PP	PP	PP
Sample Date	Client Info	02 Jul 2024	13 Apr 2024	14 Dec 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >20	<1	0	0
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m) >10	<1	0	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	0	<1
Aluminum	ppm	ASTM D5185(m) >10	<1	0	0
Lead	ppm	ASTM D5185(m) >20	▲ 18	2	4
Copper	ppm	ASTM D5185(m) >20	<1	0	<1
Tin	ppm	ASTM D5185(m) >10	0	0	0
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	0	<1
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	<1	<1	0
Calcium	ppm	ASTM D5185(m)	13	1	14
Phosphorus	ppm	ASTM D5185(m)	● 58	● 31	● 75
Zinc	ppm	ASTM D5185(m) 400	● 48	● 13	● 73
Sulfur	ppm	ASTM D5185(m)	1712	1904	1932
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

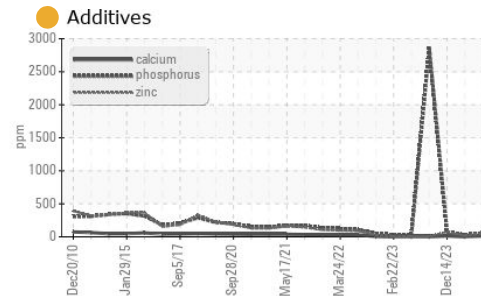
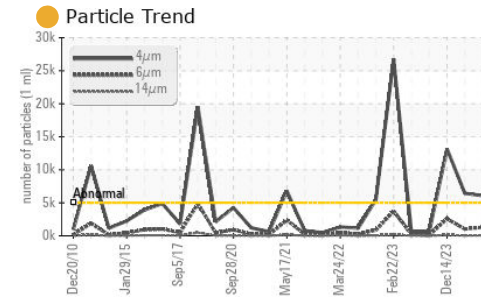
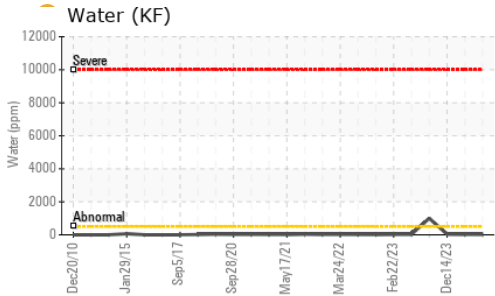
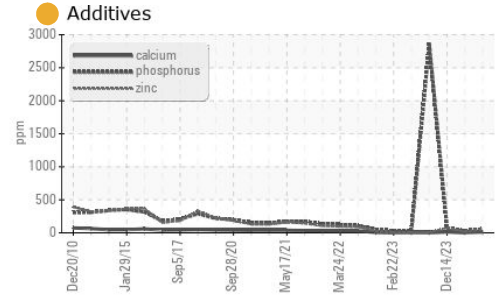
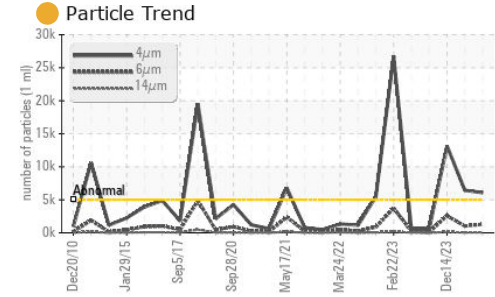
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Silicon	ppm	ASTM D5185(m) >15	0	0	1
Sodium	ppm	ASTM D5185(m)	1	0	<1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	0
Water	%	ASTM D6304* >0.05	0.002	0.002	0.003
ppm Water	ppm	ASTM D6304* >500	22	25	35

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	● 6083	● 6441	▲ 13163
Particles >6µm	ASTM D7647 >1300	1285	1020	▲ 2600
Particles >14µm	ASTM D7647 >160	69	46	121
Particles >21µm	ASTM D7647 >40	18	14	32
Particles >38µm	ASTM D7647 >10	3	2	3
Particles >71µm	ASTM D7647 >3	0	1	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	● 20/17/13	● 20/17/13	▲ 21/19/14



OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.40	0.53	0.48

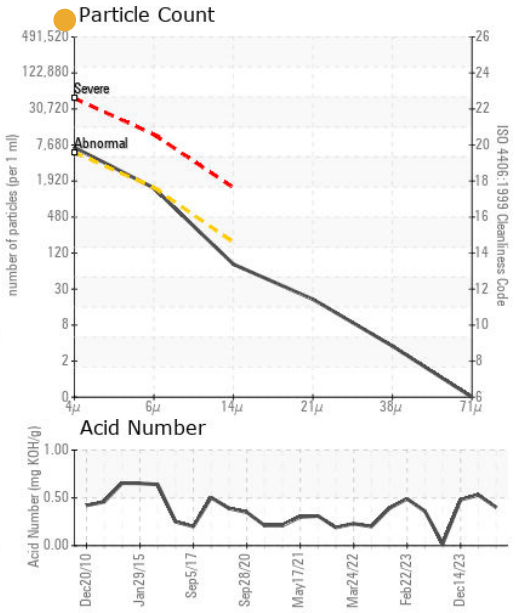
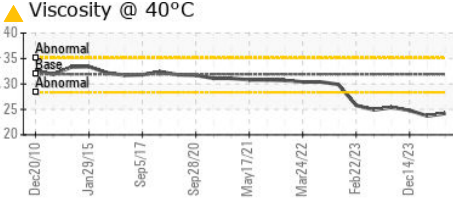
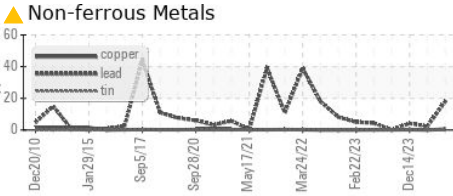
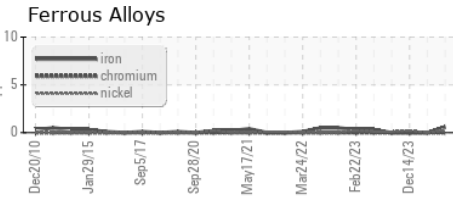
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	VLITE	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)	31.9	▲ 24.2	▲ 23.7	▲ 24.8

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. : PP **Received** : 18 Jul 2024
Lab Number : **02648696** **Tested** : 19 Jul 2024
Unique Number : 5814248 **Diagnosed** : 21 Jul 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: Bottom, KF)

HIBERNIA MGMT & DEVELOPMENT CO. LTD
 SUITE 1000,, 100 NEW GOWER STREET
 ST. JOHNS, NL
 CA A1C 6K3
 Contact: Sam Nash
 samantha.m.nash@exxonmobil.com

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.