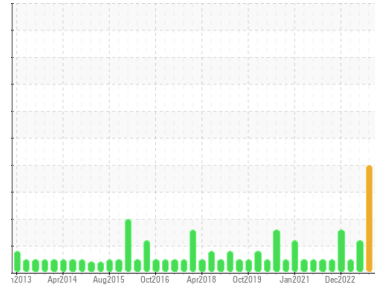




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
System 43 - Water Injection [13916194]
 Machine Id
Z-4305C Pump / Motor Lubricating Oil
 Component
Pump
 Fluid
IRVING HYDRAULIC OIL LP 32 (1950 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 water content is negligible. 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	PP	PP	PP
Sample Date	Client Info	16 Oct 2023	08 Aug 2023	11 Mar 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		NORMAL	SEVERE	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >75	0	<1	<1
Chromium	ppm	ASTM D5185(m) >5	0	0	0
Nickel	ppm	ASTM D5185(m)	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	<1	0
Aluminum	ppm	ASTM D5185(m) >5	0	0	0
Lead	ppm	ASTM D5185(m) >10	<1	0	<1
Copper	ppm	ASTM D5185(m) >15	2	2	2
Tin	ppm	ASTM D5185(m)	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	0	<1
Barium	ppm	ASTM D5185(m)	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	10	10	12
Calcium	ppm	ASTM D5185(m)	23	22	22
Phosphorus	ppm	ASTM D5185(m)	338	359	372
Zinc	ppm	ASTM D5185(m) 400	338	332	326
Sulfur	ppm	ASTM D5185(m)	2958	2942	3261
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

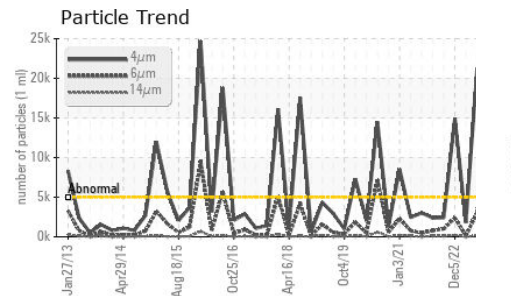
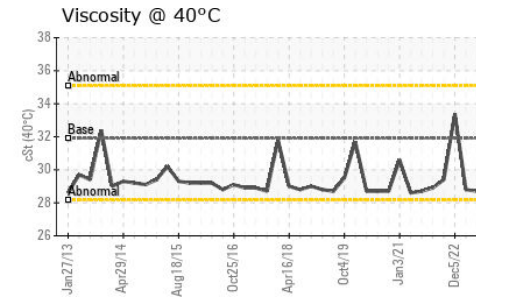
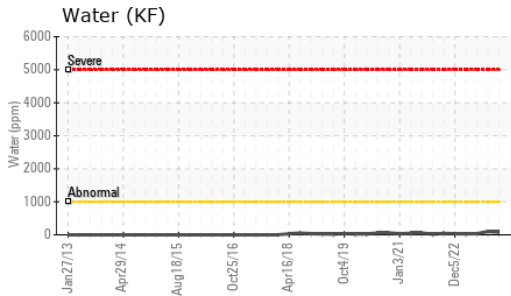
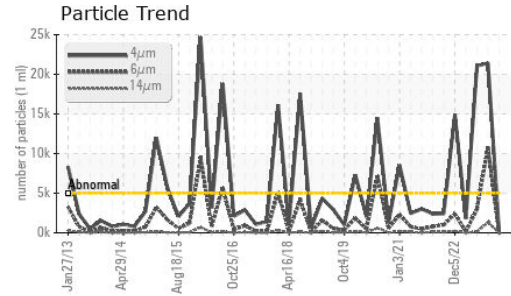
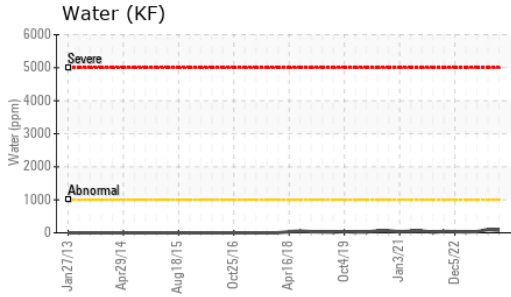
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >20	0	0	0
Sodium	ppm	ASTM D5185(m)	2	2	5
Potassium	ppm	ASTM D5185(m) >20	<1	2	1
Water	%	ASTM D6304* >.1	0.007	0.010	0.003
ppm Water	ppm	ASTM D6304* >1000	74.1	101.9	34.2

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	311	▲ 21424	▲ 21050
Particles >6µm	ASTM D7647 >1300	104	■ 10747	▲ 2990
Particles >14µm	ASTM D7647 >160	8	▲ 1282	127
Particles >21µm	ASTM D7647 >40	1	▲ 278	34
Particles >38µm	ASTM D7647 >10	0	3	2
Particles >71µm	ASTM D7647 >3	0	1	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	15/14/10	■ 22/21/17	▲ 22/19/14



OIL ANALYSIS REPORT

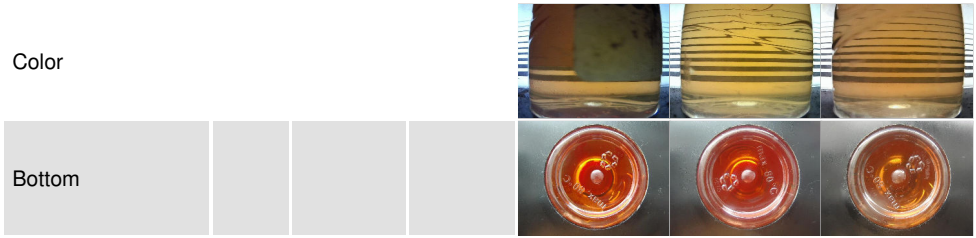


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.33	0.45	0.38

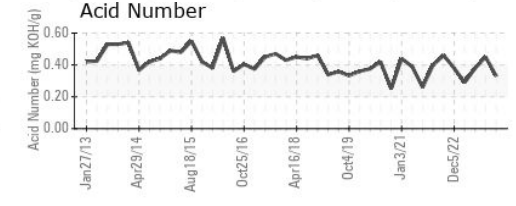
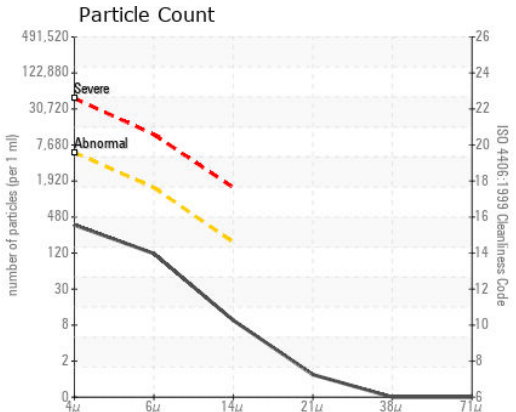
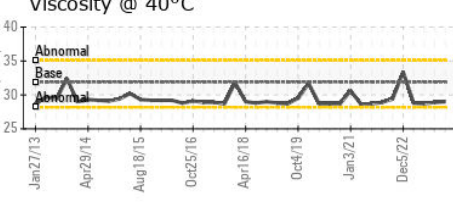
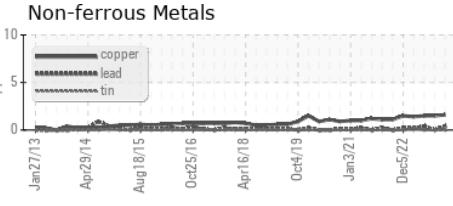
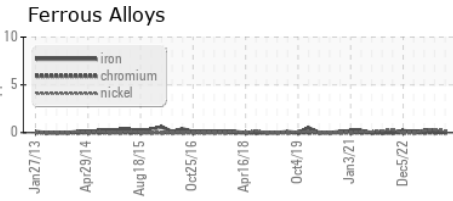
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	VLITE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	VLITE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>.1	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	29.0	28.9	28.7

SAMPLE IMAGES



GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **HIBERNIA MGMT & DEVELOPMENT CO. LTD**
Sample No. : PP **Received** : 17 Oct 2023 **SUITE 1000,, 100 NEW GOWER STREET**
Lab Number : 02589631 **Diagnosed** : 18 Oct 2023 **ST.JOHNS, NL**
Unique Number : 5658697 **Diagnostician** : Wes Davis **CA A1C 6K3**
Test Package : MAR 2 (Additional Tests: KF)
 Contact: Christopher Michelau
 christopher.j.michelau@exxonmobil.com
 T:
 F: (709)722-3766

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.