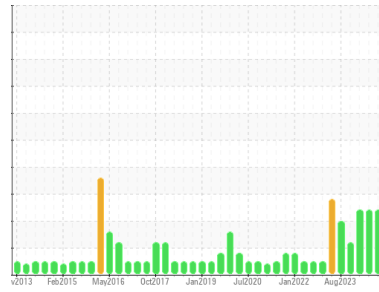




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

System 43 - Water Injection

Machine Id

Z-4305D Pump / Motor Lubricating Oil

Component

Pump

Fluid

IRVING HYDRAULIC OIL LP 32 (1950 LTR)

DIAGNOSIS

Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0936444	WC	WC0873625
Sample Date	Client Info	24 Jun 2024	04 Apr 2024	23 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) >75	<1	0	0
Chromium	ppm	ASTM D5185(m) >5	0	0	0
Nickel	ppm	ASTM D5185(m)	<1	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >5	<1	0	<1
Lead	ppm	ASTM D5185(m) >10	0	0	0
Copper	ppm	ASTM D5185(m) >15	<1	0	<1
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	<1	0
Barium	ppm	ASTM D5185(m)	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	1	1	1
Calcium	ppm	ASTM D5185(m)	53	52	53
Phosphorus	ppm	ASTM D5185(m)	335	329	335
Zinc	ppm	ASTM D5185(m) 400	420	413	408
Sulfur	ppm	ASTM D5185(m)	849	835	875
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

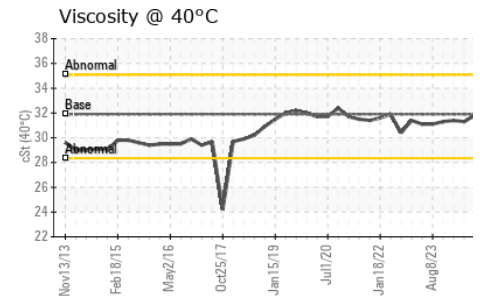
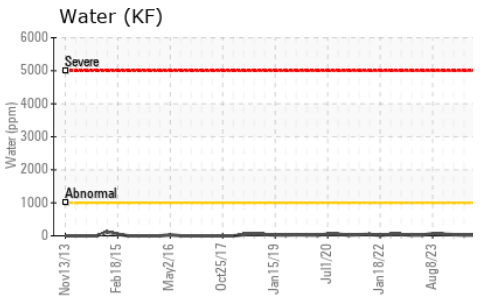
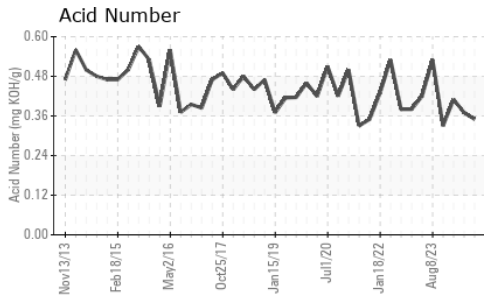
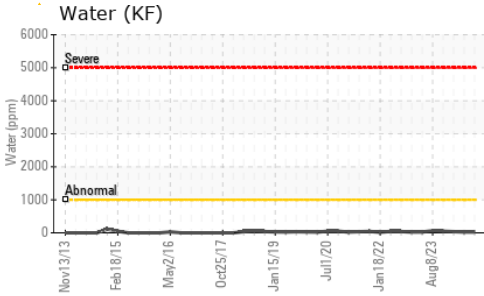
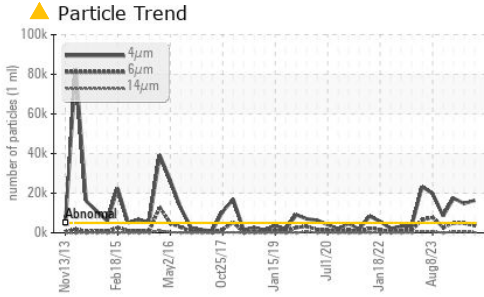
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >20	0	0	0
Sodium	ppm	ASTM D5185(m)	2	2	1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	6
Water	%	ASTM D6304* >.1	0.002	0.002	0.003
ppm Water	ppm	ASTM D6304* >1000	21	22	35

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	▲ 16378	▲ 14762	▲ 17443
Particles >6µm	ASTM D7647 >1300	▲ 3662	▲ 4858	▲ 4902
Particles >14µm	ASTM D7647 >160	● 293	▲ 457	▲ 465
Particles >21µm	ASTM D7647 >40	▲ 111	▲ 194	▲ 145
Particles >38µm	ASTM D7647 >10	▲ 25	▲ 33	● 19
Particles >71µm	ASTM D7647 >3	▲ 4	4	5
Oil Cleanliness	ISO 4406 (c) >19/17/14	▲ 21/19/15	▲ 21/19/16	▲ 21/19/16



OIL ANALYSIS REPORT

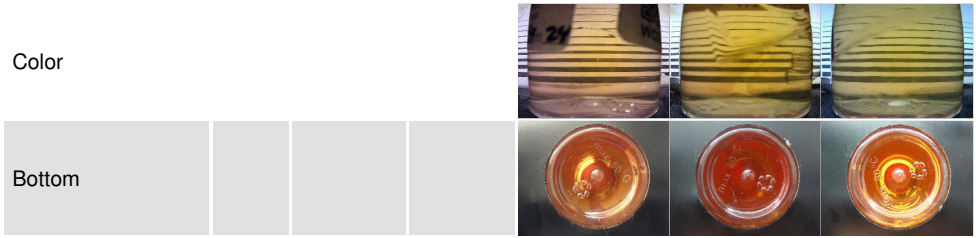


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.35	0.37	0.41

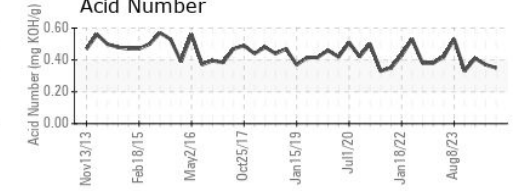
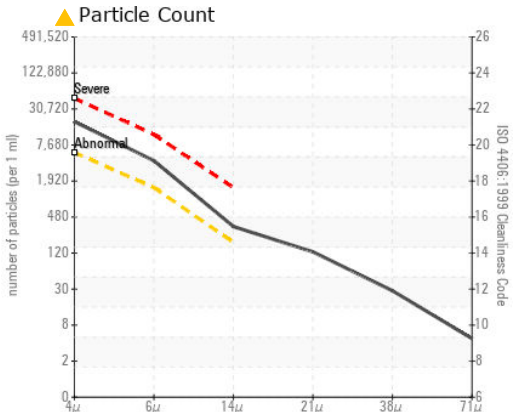
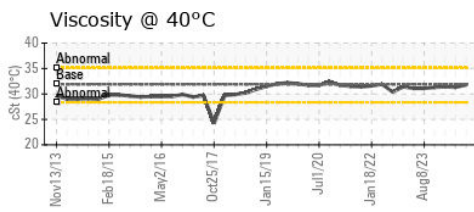
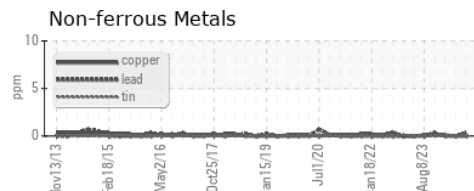
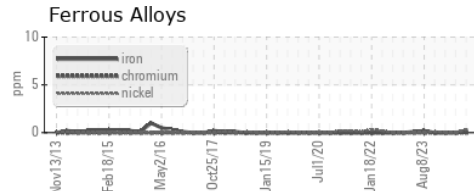
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	LIGHT	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	VLITE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>.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	31.8	31.3	31.4

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0936444
Lab Number : 02647860
Unique Number : 5813412
Test Package : MAR 2 (Additional Tests: KF)

HIBERNIA MGMT & DEVELOPMENT CO. LTD
 SUITE 1000,, 100 NEW GOWER STREET
 ST.JOHN'S, 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.