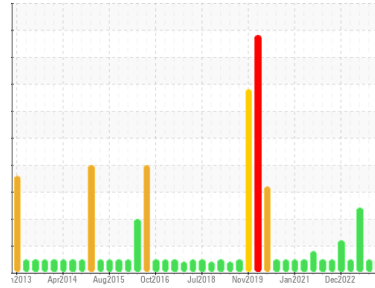




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**System 43 - Water Injection [13884889]**  
 Machine Id  
**Z-4305B 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	<b>PP</b>	PP	PP
Sample Date	Client Info	<b>08 Aug 2023</b>	06 Apr 2023	02 Mar 2023
Machine Age	hrs	Client Info	<b>0</b>	0
Oil Age	hrs	Client Info	<b>0</b>	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	NORMAL	ABNORMAL

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >75	<b>&lt;1</b>	0	<1
Chromium	ppm	ASTM D5185(m) >5	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m) >5	<b>0</b>	0	0
Lead	ppm	ASTM D5185(m) >10	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m) >15	<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185(m)	<b>0</b>	0	0
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>0</b>	<1	<1
Barium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	<b>1</b>	1	2
Calcium	ppm	ASTM D5185(m)	<b>50</b>	54	55
Phosphorus	ppm	ASTM D5185(m)	<b>362</b>	381	385
Zinc	ppm	ASTM D5185(m) 400	<b>425</b>	421	426
Sulfur	ppm	ASTM D5185(m)	<b>2530</b>	2680	2722
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

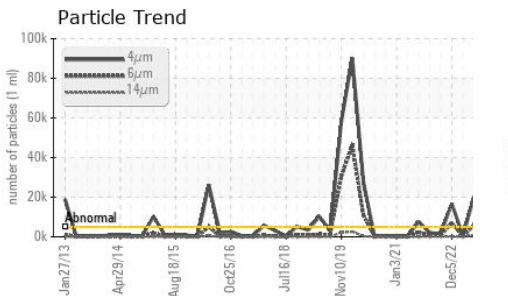
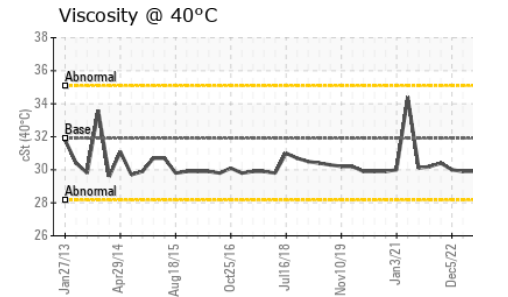
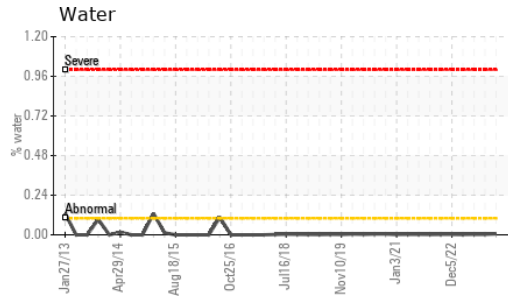
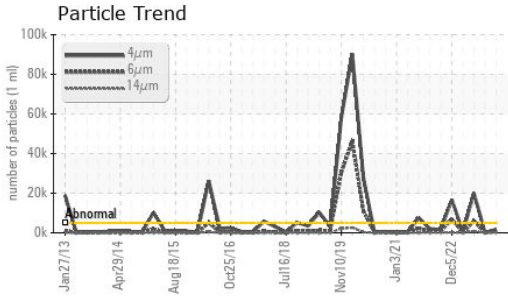
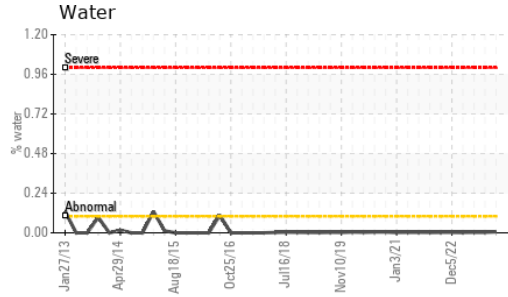
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >20	<b>0</b>	0	0
Sodium	ppm	ASTM D5185(m)	<b>2</b>	2	2
Potassium	ppm	ASTM D5185(m) >20	<b>2</b>	1	1
Water	%	ASTM D6304*	<b>0.006</b>	0.003	0.003
ppm Water	ppm	ASTM D6304*	<b>66.2</b>	26.3	36.5

## FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>5000	<b>1707</b>	161	▲ 19981
Particles >6µm	ASTM D7647	>1300	<b>603</b>	58	▲ 6090
Particles >14µm	ASTM D7647	>160	<b>88</b>	6	▲ 721
Particles >21µm	ASTM D7647	>40	<b>29</b>	2	▲ 263
Particles >38µm	ASTM D7647	>10	<b>2</b>	0	▲ 25
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	4
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>18/16/14</b>	15/13/10	▲ 21/20/17



# OIL ANALYSIS REPORT

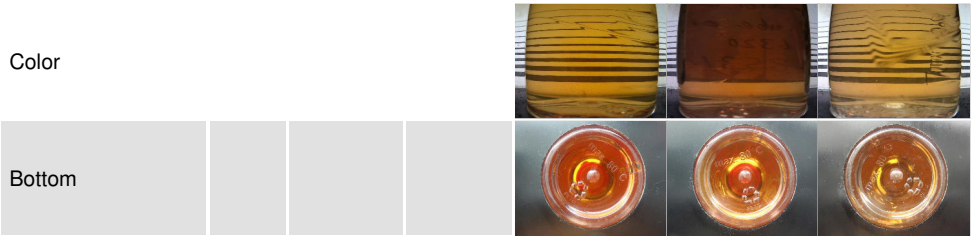


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		<b>0.46</b>	0.43	0.41

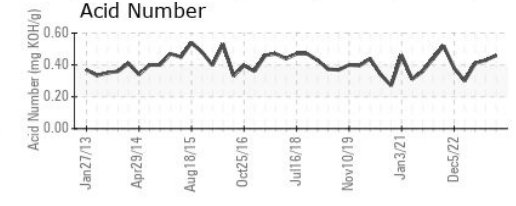
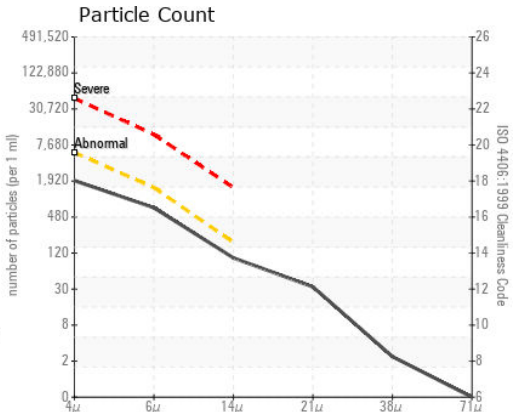
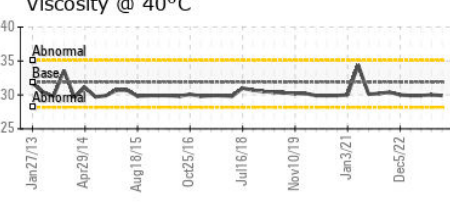
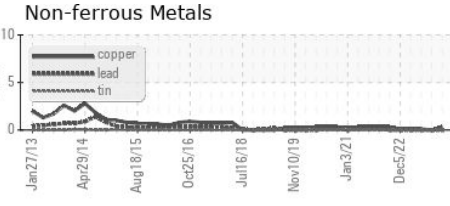
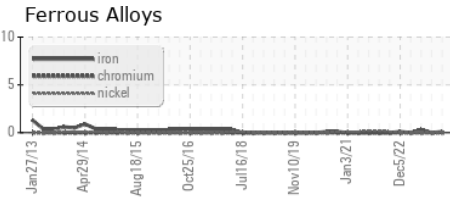
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	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*		<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)	31.9	<b>29.9</b>	30.0	29.9

### SAMPLE IMAGES



### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **HIBERNIA MGMT & DEVELOPMENT CO. LTD**  
**Sample No.** : PP **Received** : 22 Aug 2023 **SUITE 1000,, 100 NEW GOWER STREET**  
**Lab Number** : **02577511** **Diagnosed** : 23 Aug 2023 **ST. JOHNS, NL**  
**Unique Number** : 5630571 **Diagnostician** : Wes Davis **CA A1C 6K3**  
**Test Package** : MAR 2 ( Additional Tests: KF, TAN Man ) **Contact: Christopher Michelau**  
*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.* **christopher.j.michelau@exxonmobil.com**  
**F: (709)722-3766**